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REFLECTIONS ON THE MORPHOLOGY AND PHYSIOLOGY OF THE CAECUM.

with special reference to Intestinal Toxæmia.

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There is no subject that looms so largely in current medical literature as so-called intestinal toxaemia, and no organ has recently received so wide, though not always such wise, attention as the large intestine. Ever since the appearance of Metchnikoff's famous book on "The Nature of Man" this segment of the intestinal canal has a sort of weird fascination for some, the work of Arbuthnot Lane has obsessed others, and we all run danger of being unconsciously influenced by the love of the marvellous, so as to be drawn out of the normal orbit of thought when discussing a vague and indefinite subject such as "alimentary toxaemia," on which there is very little actual definite knowledge, or, perhaps worse still, recommending surgical intervention as its ordinary or only cure.

As Ostler well observes, "Captivated by the theories of Metchnikoff, we have been, for some years, on the crest of a colonic wave, and intestinal toxaemia has been held responsible for many of the worst of the ills that flesh is heir to, more particularly arterio-sclerosis and old age. The seniles and pre-seniles of two continents have been taking sour milk and lacto-bacillary compound, to the great benefit of the manufacturing chemists. But the fad is passing—not, I hope, to be replaced by one even more serious, in which operation is advised for every case of severe intestinal stasis.

The scope of the present paper is to weigh the evidence at present available (a) forbidding us to relegate so considerable a portion of man's digestive tract to the lumber heap of his useless or vestigiae structures, and (b) for sifting the comparatively few grains of corn from the immense amount of chaff surrounding them in current literature whenever the subject of intestinal toxaemia crops up—in other words, I shall try to act the part of a winnowing machine, in separating what is known from what is imagined, what are facts from what are fictions; and nowhere do fictions more abound, as Engelbert Taylor so well says: The progress of auto-intoxication is like the development of gossip in ordinary life; the first person suggests that it might be so; the second states that it is so.

The Alleged Vestigial Nature of the Large Intestine.

It is the fashion now-a-days, and I fear a growing fashion, whenever the function of an organ is obscure or not known, to consign it to the list of vestigial structure. We note this tendency in the case of the tonsil and the appendix, and now the list—already large—is to be enlarged still more by the inclusion of the large intestine. It seems to be forgotten that it is one thing for an organ to have a peculiar but unknown function; it is quite another to have no function at all.

Those who advocate complete shelling-out of the tonsils as opposed to tonsillotomy should bear in mind that it is now established that the tonsils have a well-marked glycolytic action, and that, although a person may get on very well without tonsils, yet if, in after life, his glycogenic function became disturbed, he would be far better able to cope with that disturbance if he were still the possessor of some tonsillar tissue.

The past few years have been productive of a considerable amount of knowledge concerning the physiology of the organs of digestion—the inter relation of the various separate portions of the digestive apparatus, and the inter-dependence of function of one part upon other parts is now an essential to the proper understanding of many of the morbid disturbances of the upper part of the alimentary tube and its accessory glands. But still it must be said that while physiologists have given a large amount of attention recently to the proximal portion of the digestive apparatus, they have seldom descended further than the small intestine, and the large intestine, caecum and appendix are either gently dismissed by them with a few lines or else not treated with that separate and distinct attention which their importance in present-day surgery deserves. Under these circumstances, we turn aside and see what light comparative anatomy throws on the function of the caecum and large intestine. The first thing that strikes us is that the form and structure of this segment of the alimentary canal varies considerably in different animals, and the difference depends, not on the zoological position of the animal, but on the nature of its food. Thus, in carnivorous mammals, such as dogs and cats, the caecum is either rudimentary or absent, and the colon short and simple. The caecum is also small in those herbivora that feed on vegetables capable of being easily digested. On the other hand, in those herbivora whose food is poor in nutritious substance and whose proximate principles are enclosed in resistant cellulose envelopes, the alimentary canal, as a whole, is always capacious and complex, and sometimes portions of it are highly specialized.

Placental mammals, which have been made use of in the past to illustrate this subject by such observers as Howard Kelly and Sir Wm. McEwen, only elucidate in a rather imperfect manner the modifications of the caecum corresponding to a vegetable, mixed or animal diet, and for the simple reason that in those animals there are two organs that vary with the nature of the food, namely the stomach and the caecum. Thus in some orders in this class the stomach is very complicated, and the caecum is simple, such as in ruminants; in others, on the other

hand, the stomach is simple and the caecum is complicated, as in the horse. The result of this correlation is that the issue is obscured, so far as the influence of diet on the caecum alone is concerned, by something similar to what is known to logicians as "the intermixture of effects." Not so when we press into the service the Australian fauna. Nowhere can a physiological problem be better or more clearly illustrated by comparative anatomy than is the function of the caecum by the varying conditions we meet with in our own marsupials, and for this reason that we can, as it were, "isolate the phenomena," since, in their case, not one of two organs—stomach and caecum—but caecum alone varies with the nature of the diet. The stomach is simple in all marsupials (there are a few exceptions, such as the potoroos and kangaroo). It does not vary with the nature of the food because in this group it has to correlate with other circumstances which it is not germane to our purpose to stay to consider, and hence it is that we have to look to the more distal portions of the alimentary canal for those modifications which should correspond to a vegetable, a mixed, or an animal diet. The direct influence of diet on caecum alone is thus illustrated in this group. Now what do we find! In the carnivorous dasyure (e.g., Tasmanian devil, native cat, tiger cat) the caecum is entirely absent. The intestine is almost undifferentiated, little or no distinction is to be found in what corresponds to the large and small intestines (see Fig. 1). In the mixed feeders, such as the bandicoot, there is a distinction fairly well marked between the large and small intestine, and the caecum is medium-sized and

Fig. 1. Large and small intestine of the carnivorous dasyure (adapted from Kelly).

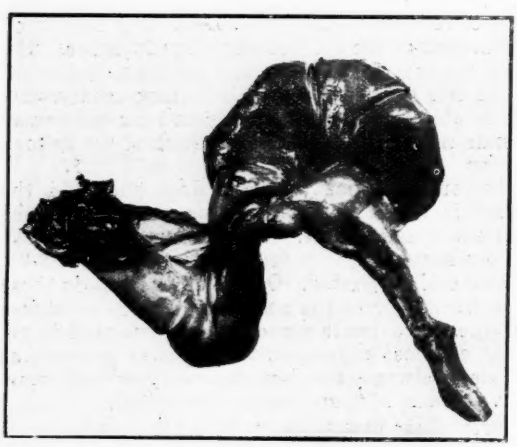

Fig. 2. Caecum of Bandicoot. (From a photograph specially prepared by Dr. Johnson, Biological Dept., Sydney University).

simple (see Fig. 2). On the other hand, in the purely vegetable feeders, such as the kaola, or native bear, the caecum is long—more than three times the length of the animal—and its mucous membrane is still further increased by something like a dozen folds, or plaits, which, beginning at the colon, are continued for three-fourths of the distance towards the blind extremity (Fig. 3). We have thus little or no caecum—moderate-sized caecum or large and complicated caecum, according as the diet of the animal is respectively carnivorous, mixed or herbivorous. We might, indeed, say, that rarely in vital phenomena is that canon of causation of Mills—known as "concomitant variation"—better exemplified. One sees, then, that, in the marsupial group, digestion takes place in the carnivorous class principally in the stomach and small intestines, the caecum being absent, or, at best, rudimentary; while in the herbivorous members the caecum is enormously developed, and is the chief digestive organ, the stomach taking a secondary place. In the mixed feeders, however, both organs, stomach and caecum, are present and functional, one organ taking up the action of the other. Now, man is something similar to the latter class; he is, at least, both carnivorous and herbivorous, and, by analogy, one would expect him to possess not only a stomach and small intestine, but, also a caecum—moderate in size, it is true; in fact, just as we find him constituted.

Fig. 3. Caecum of the Kaola. (Owen.)

But some one may say: what evidence is there that the caecum supplements the action of the stomach in mixed feeders?

To comparative anatomy we shall again go for an answer; this time to the alimentary canal of rodents (Fig. 4). Here we note a striking resemblance in external form between the stomach and the modified caecum. In each organ there are two blind sacs at each extremity, marked off by median construction on the lesser curvature. Into this median construction the oesophagus enters in the one and the terminal ileum in the other, and from the distal end of the caecum the large intestine, reduced to the calibre of the ileum, emerges just like the duodenum escapes from the distal end of the stomach. So much for the similarity in external form. Have we any facts to support the view that there is a similarity in function—that just as the stomach prepares the food for the small intestine, so the caecum prepares the chyme for the large intestine. Some years ago Keith noted the following facts relating to the digestive changes in the bowel of rats fed on oats:—

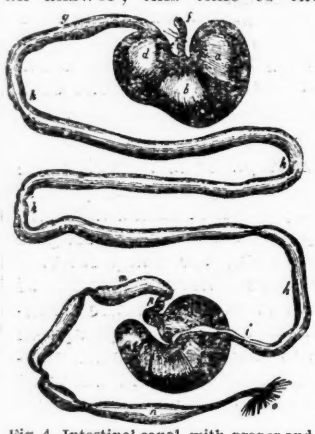

Fig. 4. Intestinal canal, with proper and supplementary stomachs (Mus Kattus). (Owen.)

In the jejunum free starch was abundant; in the lower part of the ileum no starch reaction was obtained. The inference is that all free starch was absorbed by the time the contents reached the ileo-caecal valve. When the contents reached the mid parts of the transverse colon, the starch reaction again became manifest. This fact would seem to indicate that the cellulose envelopes that proved too resistant for the enzymes of the upper portions of the alimentary canal yielded to the special form of digestion (bacterial?) to which they were submitted in the caecum and proximal colon, exposing fresh granules of starch, which were absorbed in the middle and distal portions of the colon.

That there is an interchange of function between these two organs is further suggested and illustrated in another way. We get two animals with the same diet and corresponding habits, and we get in one a singularly complicated stomach and no caecum, e.g. (Fig 5), the sloth, and in the other a very simple stomach, and very complicated caecum, e.g., kaola, see Fig. 3.

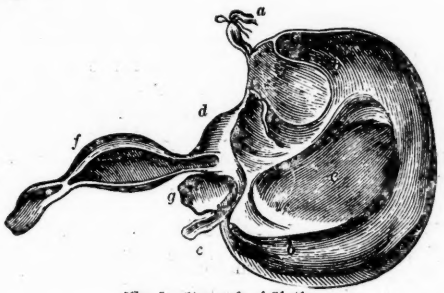

Fig. 5. Stomach of Sloth.

As the function of the caecum is intimately associated with that of the ileo-caecal sphincter, it may be well, before proceeding further, to give some space to the consideration of the latter structure The ileo-caecal sphincter in its structure and function can be considerably elucidated by the comparative method. Thus no amount of direct study of the well-known retinacula gives any clue as to their function of filling and emptying the caecum. When we examine this region in a lower form best in a rodent (as has been so thoroughly done by Keith, to whom we are indebted for clearing up many obscure points), we find the human retinacula correspond to a special sphincter—the caecal sphincter—entirely distinct from the ileo-caecal sphincter. In the typical mammalian caecum (Fig. 6) there are three functional divisions—caeco-colon, caecum and appendix*—and three distinct sphincters, namely, (b) the caecal, (c) the caeco colic and (a) ileo-caecal. The caecal sphincter is situated at the junction of the caecum and caeco-colon. In the human caecum this sphincter becomes attached to the sphincter controlling the ileo-caecal orifice, and forms the retinacula of human anatomy. In rodents these two sphincters alternately open and close so as to regulate the passage of the contents of the terminal ileum, either directly to the colon or to and from the caecum, and we naturally infer that such, too, is the function of their representatives in the human ileo-caecal valve. I have said "directly to the colon" advisedly, because there are suggestive reasons from what takes place in the case of graminivorous birds that the caeco-colon has a selective action as to what portion of the contents of the terminal ileum will be sent direct to the colon and what will be sent back to the caecum for further disintegration. There is another sphincter in this region known as the caeco-colic sphincter at the junction of the caeco-colon and the first part of the ascending colon. This is the structure referred to by the Mayo Bros. when they state "A physiologic contraction between the caecum and ascending colon, at the situation of the caeco-colic sphincter in certain lower animals holds the material between this point and the ileo-caecal valves during absorption." I have referred more than once in the last paragraphs to the terminal portion of the ileum. As this portion of the alimentary tract is closely allied both to the caecum and ileo-caecal sphincter it demands a little separate attention. This particular segment of the gut has attained a certain amount of notoriety in recent times as the seat of "ileac kinks" and "ileac stasis," and yet those who are entitled to our respect as radiographers state most emphatically that ileac stasis is a normal physiological condition of the utmost importance for adequate digestion, that an accumulation of chyme always occurs in this region where it remains and undergoes digestion actually for a longer period than in the stomach. During this period active segmentation (myogenic movement), but very little peristalsis (except when another meal is taken) can be seen in this region (the entrance of food into the empty stomach acts as a stimulus to movement in the terminal ileum, and might be called the "gastro-ileac reflex"). After a time, when the digestion and absorption so far as the small intestine is concerned, is completed, the ileo-caecal sphincter relaxes, and the remnant of contents is propelled by peristalsis into the caecum. Roughly about ninety per cent. of the solids and about half the fluids are absorbed by the time the contents pass through the sphincter. It would seem therefore that the function of the ileo-caecal valve is not so much to mechanically prevent the regurgitation of the caecal contents back into the ileum, as we were so dogmatically taught in our credulous student days, as to block the passage of the contents of the ileum into the caecum till enzyme digestion is complete and the absorption of the products of such digestion are accomplished. We say enzyme digestion because

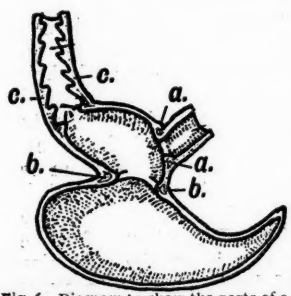

Fig. 6. Diagram to show the parts of a typical mammalian Caecum. (Keith.)

*No better work has yet been done on the appendix and its comparative anatomy than was done some fourteen years ago by Prof. Berry, of Melb. From an extensive survey through mammalian life he pointed out that the apex of the caecum of those animals which do not possess an appendix contains a quantity of lymphoid tissue (as can be seen so well shown in the caecum of the giraffe), and this he believes to be the homologue of the appendix vermiform of man and higher apes. This also gives a hint as to its function. He come to the conclusion also, contrary to widespread belief that the appendix is a highly specialized part, and that is the conclusion that everyone will come to who examines it from the comparative view-point

there is reason to believe that the ileo-caecal sphincter is the line of demarcation where one kind of digestion ends and another (bacterial) begins, just as the pylorus is the portal between fragmentation of the food on the one hand and enzyme digestion on the other. These two sphincters have certain similarities in their physiology. Thus as the pyloric sphincter opens reflexly to waves of constriction approaching it on the proximal side and closes reflexly to the presence of free acid on its distal side, so the ileo-caecal sphincter relaxes reflexly as each peristaltic wave reaches it (peristalsis occurs here actively in addition to segmentation only when another meal is taken), "gastro-ileac reflex" and closes reflexly to certain conditions in the mucosa of the neighbouring caeco-colon. To interference with the latter reflex is probably due the diarrhoea that is apt to ensue when an artifical opening is made in the caecum, the caeco-colon losing its control on the ileo-caecal sphincter under the altered conditions. The pyloric sphincter is regulated by a chemical messenger, the ileo-caecal is under the control of an elaborate neuro-muscular mechanism (Elliott). Lastly, there is a similarity in the vascular supply of both sphincters. Thus as the pyloric sphincter itself and the segments proximal and distal to it are supplied by the hepatic through its pyloric and gastro-duodenal branches, so the ileo-caecal sphincter and the segments of the bowel proximal and distal to it are supplied by the ileo-colic artery, and the segments proximal and distal to each sphincter are closely allied in function.

It is highly improbable and contrary to all we know elsewhere that such a highly specialized sphincter should be required to regulate the passage of alimentary contents either into a "cesspool," to use Lane's rather contemptuous epithet, or to a vestigial or functionless structure such as Metchnikoff would have us believe the larger intestine to be. It is far more reasonable to regard it as regulating the passage of the remaining ten per cent. of the solids and the remaining half of the fluids to conditions of the caecum most favourable for further elaboration of the former and absorption of the latter. The fluid is absorbed while the material is held between the caeco-colic and ileo-caecal sphincters and the semi-solid residue is submitted to further elaboration and prepared for absorption in that portion of the large intestine proximal to the splenic flexure where the mid-gut or the region of absorption ends. Let us put a pertinent argumentum ad hominem to those generally who speak and write so flippantly of the inutility of the large intestine thus: Supposing you were under the sad necessity of having an opening made in your large intestine, and of such a size as to allow the contents to escape freely, and that it were a matter of indifference from a surgical point of view whether it were placed in the caecum, ascending colon, descending colon, or sigmoid, where would you prefer to have it located? Methinks I hear the answer—place it near the sigmoid, by all means. However ambiguous the voice of science may be in such circumstances the voice of common sense would be quite definite on the point. Surgical experience tells us that when an opening is made in the caecum or proximal colon patulous enough to allow the contents to escape freely, the patient suffers from inanition and from thirst. His or her strength becomes gradually less, is after a time maintained only with difficulty, sometimes not at all, on an ordinary diet. On the other hand, when the artificial opening is low down in or near the sigmoid, the patient's health and strength is not much affected, if at all; he or she does not lose weight. The inference from these facts is that all the available nourishment contained in our food stuffs is not obtained during its transit through the small intestine, and that it is only when the chyme passes through the entire length of the large intestine that we derive the full benefit of what we eat.

Although as we shall see in the sequel that there is very little exact knowledge on the special putrefactive changes that occurs or of the special chemical substances resulting from such changes as take place in the large intestine, yet there is indirect evidence that some substance is elaborated and absorbed during the transit of this segment of the alimentary canal, which conduces to the well-being of the individual. At our Royal Agricultural Show, owners of prize cattle will tell you that to get their stock into the best condition, or as it is technically called, "bloom," and maintain them at that standard, not the least of the items demanding attention in the previous preparatory regime is to see that the regularity of the motions and the consistency of the faeces are kept almost exactly for months such as previous experience has taught them to be productive of the best effect. The secret of good looks is good health. This is an old saying and applies just as much to men as to cattle, and every one's own experience tells him that he is at his best mentally and physically when the large intestine is functioning properly. On the other hand, when there is any noteworthy departure from the normal rate of transit here either by excess or defect, the general feeling of well-being quickly ceases, the pleasant sensation of enjoyment in life soon departs

The nature of caecal digestion. Have we any clue as to the nature of caecal digestion? Any one who observes the caecum and terminal portion of the ileum while operating on a case of appendicitis cannot fail being struck with the difference in the amount of gas in these two segments. The ileum contains little or no gas—the caecum always does—it is never empty—not only that, but if the anaesthetist has allowed the patient to become "light" great difficulty familiar to every one is experienced in returning the caecum. The reason is not far to seek. Let us assume for the present that the digestion undergone by the contents in the caecum is due to bacterial action. Then manifestly a "batch," to use a baker's term, must be always there to secure a continuous digestion. Were it not for the paralying effect of the anæsthetic on the muscular wall of the bowel it would be impossible to expel any gas from the caecum. It could not be forced into the ileum, because of the ileo-caecal sphincter,

neither could it be passed on into the ascending colon, because its muscular walls acts the part of a sphincleric tract, as pointed out by Professors Symington and Keith, and which you see so well marked in the rat's colon.

We shall now briefly refer to the more salient features of the intestinal flora and their bacterial enzymes, partly as a completion of our study of caecum, and partly as a fitting introduction to the next division of my subject "intestinal toxaemia." It will facilitate matters if I take Herler's suggestion that all decomposition of carbo-hydrates and fats be designated fermentation and all cleavage of proteid and similar substances putrefaction. It is generally admitted that the ileo-sphincter forms the dividing line between the respective seats of fermentation and putrefaction, and were it not that it would carry us too far afield, it would not be difficult to supply suggestive proofs of the truth of this. Thus, according to Gerhardt, if the bowel be removed soon after death and treated with a concentrated solution of perchloride of mercury, the mucous membrane of the large intestine becomes red—owing to the action of the perchloride on hydro-bilirubin—whereas the mucous membrane of the small intestine appears green, from the action of the same reagent on bilirubin. As a result of putrefaction in the large intestine the bilirubin becomes hydro-bilirubin, a reduction product. The germs of fermentation too, as a rule, reside in the small intestine, whereas the putrefactive germs generally have their home in the large intestine. The conditions distal to the ileo-caecal sphincter are different from those that obtain proximal to it; the reaction of the contents of the small intestine is acid, whereas the reaction of the contents of the large intestine is alkaline. The reason of this will become manifest on casting a rapid glance at bacterial action in the alimentary canal as a whole. When food is swallowed micro-organisms multiply for some time in the stomach and some of them by acting on and splitting sugars form organic acid (lactic and sometimes acetic). After a time when sufficient gastric juice is secreted for the mineral acid to exist free, the growth of fermentative organisms for the time being is inhibited and some are killed. As the contents pass into the intestine the free hydrochloric acid in the chyme is neutralized by the alkaline secretions emerging from the ampulla of Vater, the fermentative organisms again begin to grow, and by acting on sugar form organic acid (lactic and acetic) once more and so render the contents of the small intestine slightly acid. It is not till towards the end of the small intestine that the alkaline succus entericus gains the upper hand, and as the contents pass the ileo-caecal sphincter they are alkaline. In this alkaline material putrefaction organisms find a congenial soil, flourish, and attack any proteid which is not yet absorbed, splitting its complex molecule up, and forming among other substances a series of aromatic bodies of which the principal are indol skatol and phenol

THE EYE AT SCHOOL.

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We read much nowadays of diseases of occupation and of occupations which cause certain diseased conditions. One of the most important, perhaps because the most general, affecting as it does practically every child in the State, is the occupation of scholar, and it is to one organ which is most concerned in that occupation to which I wish to direct attention.

The eye, undoubtedly, in school life plays a leading part, and it must be remembered that during the years of school life it is an organ which is growing, developing, and undergoing continuous change. The refraction of the eye is not a fixed quantity; at first in young children usually hypermetropic, the hypermetropia gradually lessens until the eye becomes emmetropic, and in some cases even myopia eventually develops.

This hypermetropia which the child appears to share in common with savage races and wild animals seems a clear indication that nature intended the eye to be used for distant vision and not for the near vision and constant strain of school life. Even when emmetropia is the existing state of refraction, one finds that the eye in its natural condition of rest is an organ adapted for distant vision, and that for near vision a continuous effort has to be made and a complicated mechanism both nervous and muscular has to brought into play.

The brain part of the visual mechanism too has to be developed and the delicate and complex system of co-ordination of brain, eyes, ears and hands gradually evolved.

The use of the eyes for near work with the muscular effort, and the blood flow to these organs which has been induced not only by the extra work but by the stooping of the head over the task, incline the eyes to strain and to weakening of the tunics of the eye which tend to cause the development of any defects to which they may be predisposed or the exaggeration of any which may already exist.

Any system of education therefore, like ours, which compels the eyes of children to carry on continuous near work, and to focus small objects at close range for several hours daily, is more or less an unnatural one, and too great care cannot be taken so as to avoid as much as possible the evil results which the violation of a natural law involves.

If even under the most favourable conditions with properly lit school rooms, good desks, well printed books, &c., some harm may ensue, how much greater mischief may be wrought by unhygienic school rooms and the unscientific methods so commonly met with.

This is no new fad that I am elaborating; for years oculists have spoken and written on it, but I am afraid it is overlooked too often, not only by many of our own profession, but what is worse, by educationalists.

It is a startling, if at the same time a regrettable state of affairs, that educationalists, from whom one might expect something better, have been so regardless of scientific observations and principles touching this and other cognate matters.

It makes one prone to agree with the hygienist who affirmed that the head of a Board of Education should be a medical man, and that until then no system of education would be conducted on sound principles. Although we cannot be expected to allow our children to grow up in ignorance, or the educational system of our time to be destroyed, we can insist on these systems being founded on physiological principles and administered on scientific lines, and it is to the members of our profession that we must look for reform.

The health of the eye at school may, so far as my present subject is concerned, be regarded as dependant on:—

(1) The architecture of the school and school room.

(2) The lighting of the school room.

(3) The design and proportion of desks and seats.

(4) The character and amount of the school work, reading, writing, sewing, &c.

I propose to deal at any length with only two of these:—

First.—As regards the architecture of the school, I think no license should be given for the erection of new schools until the plans have been examined and approved of by competent medical advisers. This would prevent the continued erection of buildings which in the past have violated almost every law of school hygiene.

Second.—The lighting of school rooms is a most important factor and one which requires careful consideration. Exact observation and not haphazard statements are necessary in dealing with this question. It is frequently stated that a school room is well lit, but if one enquires how the light is estimated there is no answer, save a general statement. We are much too inclined to accept these general statements as to the illumination of schools, and there is nothing in school hygiene in which such are so deceptive and misleading. If one were to enquire of a medical officer as to the purity of a water supply he would prefer a definite analysis to a general answer.

I have found the lighting of a "well lit" school room to be as low as 5.f.c.

It must be remembered that a room, which may be well lit on a sunny day or at a particular time of the day, may not be so at another time, and that one ought to estimate the lighting of a school room by its minimum, not by its maximum.

The lighting of any room may be tested by means of any of the simple photometer tests, and the light on desks and blackboards should be estimated. The photometers of True, Katz, Bishop Harman, etc., may be used, or in place of these one may be guided by the rule that one ought to be able to easily read diamond type at 12 inches with the normal eye.

Another point, which is sometimes overlooked, is that the lighting of a school room may be very unequal, I have found in a room the light varying from 4.f.c. to 35.f.c., in another from 0.75.f.c. to 10.f.c., according to the part of the room, and I have more than once found the ametropic child seated at the desk of low candle-power illumination, while his more fortunate emmetropic companion was enjoying the better light. Of course I do not wish to infer that the dullness of the illumination was the cause of the ametropia, but such an observation goes to show the importance of a sufficient and regular illumination being secured, which can only be brought about by having the ocular hygiene of schools put on a proper scientific footing.

As a general rule for the lighting of a school, one may say that firstly—there cannot be too much light, secondly, on a dull day in the most badly lit corner of the room the light should not fall below a minimum of 9.f.c.

The proportion which window surface, i.e., transparent glass, bears to the floor space, should be about 1:3 or 1:4. Cohn and Risly fixed 1:5 as the absolute minimum; in a model Prussian school it was 1:2; in the Ferrand school of Paris it was 1:1; while in the Franklin school at Washington the window exceeded the floor space.

Direction of Light.—All opophthalmologists are agreed that the left is the best direction by which the light should enter the room. Bilateral illumination is, as a rule, to be condemned, the opposing windows causing cross light and shadows and in the words of Trelat: "Les silhouettes rompues ne se degagent pas les modeles sont perdus dans les valeurs effacees, la forme et la couleur se derobent." Some approve of bilateral differential illumination, i.e., the window space on the right to be not more than half that on the left. If the school room has been so constructed that it is necessary to have some lighting from the right such windows should not have their sills lower than 8 feet from the floor; in this way the ceiling of the room is well illuminated and the light diffused in the room; even then, however, cross lights and shadows may be troublesome. Illumination from the rear in itself is to be condemned, and even when combined with left lighting is often unsatisfactory; in most school rooms where lighting is from behind, the teacher and blackboards are facing the windows, the glare and reflection on the polished surface of the boards make the figures and letters hard to distinguish, and the teachers almost without exception complain of their own eyes.

The windows, which should be on the left, should not be lower than 3½ feet to 4 feet from the ground, so that the light should enter above the head of the children, and luminous reflections be avoided; in height they should reach to the ceiling. It is most important to see that as little space as possible should exist between the windows, for which reason the piers between may be made of iron so that as little room as possible be required; if there is any brick or wood work between it should be made as narrow as possible and bevelled. Indeed, considering the

great improvements which now exist in glazing as is evidenced by the beautiful windows of large shops, there is no reason why similar windows should not be employed in schools.

If these points are not attended to, there will be great irregularities in the lighting of school rooms, and we will find broad bands of light alternating with bands of shadow which prove confusing to the eye, and in addition the amount of light may be considerably lessened. At the desks which correspond to the dull interspaces between the windows, I have found a variation of 20 f.c. or more at different desks in a school room as a result of such errors.

Javal and Cohn both approved of lighting from above; it is made use of in the lighting of some lecture rooms and is much preferred by artists for their studios. In practical school hygiene, however, it is out of the question. Where buildings are close to the school and interfere with the lighting, the light may be attained by the use of reflectors mounted on hinges an at angle of 35-40 deg. outside the windows; in this way the light is reflected on to the ceiling of the room. The colouring of school rooms is important, sometimes a room which would otherwise be suitable being spoilt by too dark tints. The surface of walls should always be dulled, not shining. Reds should never be used as they absorb too much light. Some authorities recommend faint yellows, which absorb little light; these, however, apparently are more likely to cause ocular fatigue than are greens or light grays, which are more restful to the eyes and at the same time absorb little light. The ceiling should always be white so that as little light as possible is lost by absorption. Where there is a large space of blackboard in a schoolroom, when not in use a sliding blind should be drawn over it to prevent the large absorption of light which takes place. As indirect solar light diffused and toned by the media through which it passes is the best illuminant, in the day schools of Australia the question of artificial lighting should not need to be considered, but in night schools and boarding schools it is an important one, in some the artificial lighting being very bad. Sources of illumination are usually two in number, gas and electricity. If gas is the illuminant, the ordinary gas flame is too yellow and too unsteady for the purpose, so that an incandescent mantle should be used with some special globe such as the modern dioptic globe, which spreads the outline of the source without materially lessening the light by absorption. At the last (1913) Gas Exhibition in London a model school room with artificial lighting was shown in which the chief point was the illumination of the blackboard by a light immediately above and in front of it; this was backed by a dark metal shield so that the lamp was invisible to the class; illumination was secured for each desk without allowing the rays of light to fall injuriously on the eyes of either scholar or teacher. The minimum illumination for any desk was 2½ f.c., while for the blackboard a standard of 2 f.c. was admitted to be sufficient only for small class rooms where the scholars were within 20 feet of the blackboard. Both for gas and electric light 3 f.c. should be fixed as the minimum. Electric light is becoming more and more common and is very convenient to use.

The naked arc lamp, the carbon loop and the metallic filament are all too trying to use for continued work.

The lamps in common use are the carbon and metallic filament enclosed in glass bulbs. It must be remembered, however, that apart from the mere intensity of their light, the ultra-violet rays which they emit often prove trying to the eye.

I cannot agree with the statement often advanced in favour of electric lighting, that its introduction has never been followed by an increase of eye disease or errors of refraction.

While I have never seen any serious disease develop, I have frequently noted irritability and weakness of the eyes follow upon the use of electric light, especially where metallic filaments have been used, and I am quite sure that it plays a part in some asthenopic cases.

I have noted clerks and workmen who had been employed in the same work within a short time after the use of electric light as an illuminant complain of eye symptoms.

In some people whether emmetropic or not metal filament lamps are productive of much ocular discomfort, and I have from time to time seen cases in which an astigmatism, which was present without causing the patient any inconvenience, began to be very troublesome when he or she took to reading by electric light.

Similarly I have seen children with asthenopia and blepharo-conjunctivitis who had been doing their lesson by electric light or incandescent gas lose all their trouble on cessation of this. Although perhaps it is unsuitable for use in schools, still for home work and in small study rooms, I know of no better artificial light for child or adult than that given by a high-grade oil lamp, and I have frequently found such a change from gas or electric light proved highly beneficial.

Third.—The design and proportion of desks and seats I do no propose to touch on in this paper. Several good types are on the market, and teachers ought by now to realise the importance of proper furniture.

Even with hygienic desks and seats, children are prone to stoop over their work, teachers should be constantly on the "qui vive" to stop this and to check the habit which children so readily develop of bringing their work too close to their eyes, for which purpose the face rest might with advantage be made more use of in schools.

BOOKS, &c.

Fourth.—The importance of properly-printed books seem hardly to be appreciated either by educationalists or the general public; here too general statements are usually accepted instead of accurate observations. If one enquires what standard and regulations are used in the choice of school books, as an almost invariable rule, one finds that these are either none at all, or that what they are, are based on no definite scientific principle. In fact, it is the exception to find educationalists who are acquainted

with the observations and laws of Cohn, Javal, &c Some years ago I drew attention to this matter and published tables bearing on it in the agenda of the Congress of 1911; it was therefore very interesting to me to notice that a committee was appointed by the British Association of 1912 to report on the question and that this committee has emphasised its importance. The committee found as I have that no systematic attention is given to the influence of school books upon eye sight.

Briefly let me indicate the essentials, to go into full details would trespass too much on space:—

The paper of the book should be opaque, so that none of the printing from the other side can be seen through it; it should not be bibulous, so that there should be no running of the ink or staining, it should not be glazed or shining so as to prevent confusing reflection of light. The best tint is probably a soft cream or what the French call "couleur bois"—a pure white is not so good. The type should be clean cut and well defined.

Size of Type.—Let me quote from a former paper of mine:—"As you are doubtless aware, Dr. Hermann Cohn, of Breslau, who investigated this question thoroughly, is of opinion that taking the roman "n" as a basis for measurement, all type which is less than 1.5 m.m. in height is harmful to the eye, and should be prohibited; the smallest leading which should be allowed is 2.5 m.m., and the greatest length of the line should not exceed 9 c.m. at the most 10 c.m. As regards the thickness of the letters, the down stroke should be at the very least 0.26 m.m thick, and according to Schneller 0.3 m.m.

"Griffing and Franz in their investigations showed how a greater time is taken to read the smaller type, and fatigue therefore more easily enduced, and how the strength of the light necessary to read with increases rapidly as the size of the type diminishes.

"This is a most important point, for in many of our schools the lighting is at times much below the normal standard, and consequently if the size of the print, etc., is too small, the strain and fatigue of the eyes is much increased."

Model Book.	Books Examined.			
Type of Book.	Size of letters	Leading	Size of letters	Leading
1st Reading book	2.6 mm.	4.5 mm.	2. mm.	3. m.
Poetry in 1st Reading book	....	....	1.5 mm.	3. mm.
2nd Reading book	2. mm.	4. mm.	2. mm.	3. m.
Poetry	....	....	1.5 mm.	3. mm.
3rd Reading book	1.6 mm.	3.6 mm.	1.5 mm. and less	2. mm.
Poetry	..	..	1. mm.	1.5 mm.
4th Reading book	1.6 mm.	3. mm.	1.5 mm. and less	2. mm.
Some small type in book	....	....	0.75 mm.	1. mm.
Verses of music	....	....	0.50 mm.	1. mm.
5th Reading book	1.6 mm.	3. mm.	1.5 mm. and less	2. mm.
Small type	....	....	0.75 mm.	1. mm.
Arithmetic book	1.6 mm.	3. mm.	1.0 mm.	1.50 mm.

Length of line in some books was 11.4 cm.

The first measurements are the minimum ones, which are approved by scientific authorities.

The second measurements are those found in the school books examined.

The 1912 Committee reports that the absolute minimum is as follows:—

Age of scholar.	minimum height of face of short letters.	minimum length of alphabet of small letters.	maximum of inter-linear space.	maximum length of line.
Under 7 years	3.5.mm.	96.mm.	5.mm.	
7 to 8 years	2.5.mm.	72.mm.	3.6.mm.	100.mm.
8 to 9 years	2.0.mm.	55.mm.	2.mm.	93.mm.
9 to 12 years	1.8.mm.	50.mm.	2.mm.	93.mm.
12 to X years	1.58.mm.	47.mm.	1.8.mm.	93.mm.

The interlinear space or leading is important; if too small the type is more difficult to read, and the eyes of children as well as adults more readily become tired.

The length of the line is often disregarded, even in school books, where the printing may be excellent—e.g., type H. If the line is too long the eyes are more readily fatigued.

Arithmetic books are often the worst examples of improper type. If possible the print in them should be larger than the corresponding types for the age groups, certainly never below the minimum. Long lines and rows of figures are trying to children's eyes, so that they should always be printed on the largest and heaviest type possible.

For children under 12 years of age, the height of a fraction should not be less than 3.5mm.; over 12 years it should not be less than 3mm.

Bibles, etc., are often very faulty in the printing, and the type much too small.

Greek.—Some types are trying to the eyes, but with a proper type there should be no eye strain.

German.—The older German lettering and print were very trying to read, now that German books are printed in Roman type, however, this cause of eye strain should be eliminated.

Maps, Atlases, etc.—These are, I suppose, to some extent necessary evils: their use should be strictly regulated and supervised by the teacher. The use of maps crowded with detail, and with many names in fine print, and the drawing of such maps should be prohibited. No atlas should be allowed in which there is type smaller than ten point.

Music.—Girls are special sufferers in this respect. In addition to the usual school work they are frequently burdened with music lessons two or three times weekly, with daily practice added. The type of the music should be good, and the interval between the stave lines two mm., or over.

Methods of Work, etc.—No children under 6 years of age should be sent to a school unless it be to a kindergarten. Even at a kindergarten care should be taken that the objects used are not too small, and that eye strain be avoided. The children should be as much as possible in the open air. Reading should be taught from large type on boards or sheets. Probably no books should be made use of before 7 years of age. In all schools there should be far more oral teaching than there is at present. The school hours should not be too long, and there should be frequent changes of work, so that the eyes get rested from reading and writing, and intermissions for rest and recreation.

Night work should not be allowed the younger pupils, no home work before the age of 8 years is a good rule, and for the elder it should be carefully regulated. As has been already noted with artificial illumination, the eyes more readily become tired, and there is a direct relationship between the strength of illumination and the size of the type which can be read. With artificial lighting types which might be admissible for use by daylight are too small.

Sewing.—I have already alluded to this branch of school work in my previous paper as follows:—

> Sewing occupies an important position in the school work of girls, and submits their eyes to an additional strain, which boys escape. And in this relation I would remark that, in my experience, the proportion of girls suffering from symptoms of eye strain is higher than that of boys, the chief reason being that, in addition to their ordinary work, girls are usually burdened with the additional tasks of sewing and music. I am afraid that few of our educational authorities realise the importance of seeing that this branch of school work is properly taught; the teachers are too often laws unto themselves, and transgress all the rules of eye hygiene.
>
> In some of the sewing classes which I visited, I have found extremely fine work being done by girls of from 12 to 14 years of age; for instance, in some work which I examined I have found from 40 to 48 stitches to the inch, and that sometimes in a room where the illumination was very bad.
>
> This was a strain to my own eyes to count even in a good light. What must it have been to a child working in a badly-lighted room?
>
> On watching classes engaged in needlework I have noticed—
>
> 1.—Many children holding their work within four or five inches of their faces, some frowning with that peering expression which accompanies strain of this kind.
> 2.—Some children squinting.
> 3.—Some children grimacing, putting out their tongues, twisting or opening their mouths.
>
> Sewing should be taught on correct principles, and as elementary rules I would suggest:—
>
> (a) Children be not allowed to hold their sewing nearer to the eyes than 12 inches.
> (b) Fine sewing of any kind be reduced to minimum, and no fine work be taught to children below the age of 12 years.
> (c) Young children must not be taught stitches of more than 5 or 6 to the inch.

As a result of the non-observance of ocular hygiene, we meet from time to time with various eye troubles; chief amongst these are different forms of ametropia.

Myopia.—I have never been able to satisfy myself that myopia is caused by the strain of school life alone in almost every case where it has developed from low degrees and upwards, I have been able to elucidate a hereditary history. High myopia is very often found in illiterate people who have never been submitted to any eye strain at school, or been engaged in any near work; apparently the tendency to myopia is hereditary, whether due to some inherent weakness of the fibrous coats of the eye or not, and the strain of educational life plays the active role in its development. As to how this acts is somewhat uncertain—the congestion of the eye ball from hanging the head down, the increase of intra-ocular tension, the convergence of the visual axes and the muscle pressure probably all play a part.

Hirschberg, in his monograph, writes: "If the inherited formation of myopia has a great significance, yet the development of myopia for the most part ensues from the school influence.

In tracing the history of a myopic child, it is interesting to notice how, in the early stages of school life, and in the lower classes, the myopia develops only slowly, but as the child progresses in its studies and passes into the higher classes, the increase of myopia becomes much more rapid.

Asthenopia, with its various symptoms, whether associated with errors of refraction or not, is of frequent occurrence. Errors of refraction, whether hypermetropic or astigmatic, should be corrected These may have existed for some time without causing any trouble, but when the eye is submitted to undue strain, symptoms develop either gradually or suddenly; thus I have seen a boy with 0.50 D of astigmatism uncorrected, whose eyes have given him no trouble at school, suddenly develop an acute conjunctivitis and asthenopic symptoms after a few nights hard study for examination. One must always remember that even the normal eye may suffer if too great a call is made upon it. From time to time I have children brought to me complaining of headaches, eyeaches, etc., whose eyes are apparently normal. On cross-examination one finds that the unfortunate child, often a girl, has been studying from nine to ten hours daily, being "crammed" for some examination.

Squint.—Internal strabismus is seen from time to time in schools. I have already alluded to its occurrence in sewing classes. If already present in the child on his entrance to school, it tends to increase, although latent it is frequently first made manifest at school by the more or less constant excessive convergence of the eyes for near work. One often notices, too, how a periodic concomitant strabismus is similarly, as a result of school life, transferred into a permanent one.

Hetero-phoria is, as a rule, not a cause of much trouble in children; if any associated refraction error is present it should be corrected. I have found it occasionally developed in girls who have been straining their eyes by too much near work, such as fine sewing.

LOOPING THE CARDINAL LIGAMENTS.

By **Arthur J. Nyulasy, M.R.C.S. (Eng.),**

Gynaecologist to the Perth Hospital, formerly Surgeon to the Perth Hospital.

In my paper on "Looping the Cardinal Ligaments in Uterine Prolapse," read at the last Australasian Medical Congress, and published in full in the "Annals of Surgery," of April, 1914, I gave a description of the operation and of the anatomy of the cardinal ligaments, and quoted cases in which

the looping was successfully performed Since the publication of the paper I have had numerous inquiries from surgeons for further details as to technique, anatomy, and the special points which require attention in order to secure success in any operation. These inquiries I will endeavour to answer.

Anatomy.—In regard to the question whether the cardinal ligaments, as I have described them, are not the "transverse ligaments of the cervix" (ligamenta transversa collis of Mackenrodt) referred to by Eden, who quotes Mackenrodt's description with evident approval. According to Eden, the transverse ligaments of the cervix" are described by Mackenrodt as "bands of firm fibrous tissue, which form specialized parts of the visceral layer of the pelvic fascia; arising in the neighbourhood of the ischial spine, they pass through the pelvic cellular tissue, and are attached to the sides of the cervix and vaginal vault. Unlike other uterine ligaments, they have no special peritoneal covering." Eden further states that "according to some anatomists they form part of the sheath of the uterine arteries, which reach the uterus at about the same level. The existence of these specialized bands of pelvic fascia has been confirmed by recent anatomical work.

Now, whatever Eden or Mackenrodt may mean, the "transverse ligaments of the cervix" so-called, are unquestionably not the ligaments described in my original paper. And any attempt to loop the cardinal ligaments from Eden or Mackenrodt's description will be likely to end only in abject failure.

The cardinal ligaments as I have described them (Professor Watson, of Adelaide, calls them "Nyulasy's Ligaments"), arise by three more or less definite, largely muscular heads from the sides of the uterus, the median head corresponding to the transverse portion of the uterine artery, the inferior head being attached to and arising from the upper surface of the lateral vaginal fornix, and the superior head arising a little above the median head. To demonstrate these heads really well on the cadaver, it is essential that the subject be only very recently dead, and young, spare, and fairly muscular. The three heads unite together into a largely muscular band, half an inch or more in width, which passes outwards on the posterior layer of the broad ligament for over an inch. The muscularity of the ligament up to this stage is so obvious that no microscopical examination is necessary to prove it, and Dr. C. Kellaway (Registrar of the Melbourne Hospital), who prepared one of the anatomical specimens for Congress, and Professor Watson, who subsequently examined it, had no doubts on the question. The cardinal ligament, which up to this is largely muscular (I regard it as practically an extension outwards from the uterine muscle), now tends to change its character, spreading out, fanwise, into fibrous bands, which are inserted into the side of the pelvis, some of these bands, also, passing up over the iliacs, and others (fibro-muscular) being inserted into the postero-lateral wall of the bladder. It is clear that the inferior head plays an important part in holding up the vagina, and that the portion inserted into the bladder must be effective in assisting to hold up that viscus. The cardinal ligament (the muscular surgical part) has posteriorly the posterior layer of the broad ligament, to which it is adherent. Anterior to the cardinal ligament is the posterior wall of the bladder. The upper margin of the ligament is free, while the lower margin is attached to the transverse vaginal vessels by means of connective tissue.

Factors for Success.—The following factors are important for the successful exposure and looping of the cardinal ligaments:—(a) The Trendelenburg position (rather high). (b) Deep anæsthesia. (c) Good light. (d) Capable assistance. If these factors are present, and a good free abdominal incision be made, the operation should present no exceptional difficulty to the surgeon experienced in female pelvic work.

Exposure of the Ligaments.—The utero-vesical reflection of peritoneum is opened transversely, the incision extending well out towards the round ligaments. The bladder is then turned down from the front of the uterus till the upper part of the vagina is exposed, and the vesical ends of the ureters can be felt or seen. The upper edge of the superior head of the cardinal ligament is then clearly defined, the judicious use of dissecting forceps or a dry dissector assisting to this end. The uterine artery is noted passing inwards on the body of the cardinal ligament, while the ascending part of this artery is seen curling upwards over the superior head of the ligament. The ligament is now exposed as much as is necessary for success in any operation. It is then bluntly dissected from the posterior layer of the broad ligament, and is thus completely isolated except at its lower edge, parallel to which vessels pass to and from the vagina. Towards the outer end of the muscular body of the cardinal ligament the ureter may be felt or seen dipping from behind under the cardinal ligament. The ureter is thus completely under the control of the surgeon. By means of an aneurysm needle a silk thread is now passed round the ligament, and a loop of the ligament drawn up on to the front of the uterus, to which it is stitched.

Although by the foregoing procedure of looping the cardinal ligaments the uterus is raised up to its normal level in the pelvis, it still remains retroverted. To remedy this the under (raw) surface of the round ligament is exposed by everting the already opened peritoneum, the fascial layers over the ligament are divided, and the ligament thus clearly defined is drawn out into a loop of necessary size, this being sutured up with silk or thread.

Finally, the utero-vesical incision is closed with a continuous cat-gut suture, leaving only a suture-line of about two and a half inches to show that an intra-pelvic operation has been carried out. And even this line of incision is hidden by the now anteverted uterus.

The utero-sacral ligaments may also be looped, although I have not deemed it necessary in the cases of uterine prolapse dealt with up to the present.

The operation of looping the cardinal ligaments as described is practically free from danger when carried out with reasonable care by a surgeon used to intra-pelvic work. It has been suggested by surgeons who have not done the operation, that hæmorrhage is a serious danger. In experienced hands this danger is quite mythical, and in my own cases I have always had a practically dry field. As to the ureter, there is not the slightest danger of injuring it if the technique I have indicated is carefully followed.

Advantages.—In capable hands the operation of looping the cardinal ligaments is free from immediate danger to life, both ureter and blood-vessels being completely under the surgeon's control. Post-operative shock is unusually slight, there are no raw surfaces for intestinal adhesions, and the anatomical result is as perfect as surgery can make it.

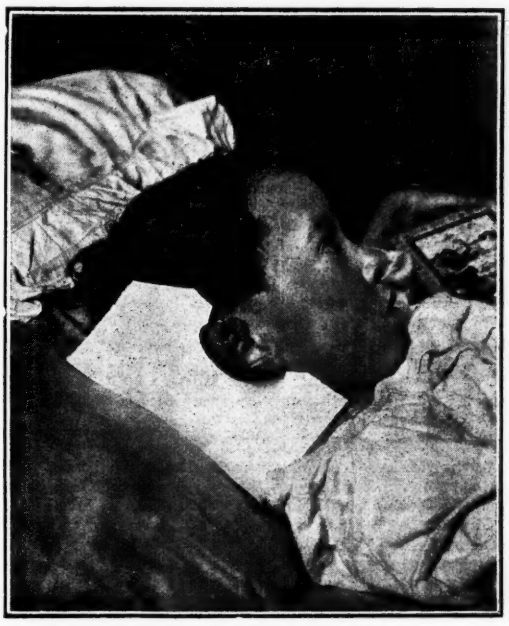
Reports of Cases.

A CASE OF MULTIPLE GANGRENE IN CHILD 6 YEARS OF AGE.

By **James A. Smeal, M.B., B.S.,**
Medical Registrar, Melbourne Hospital.

J.M., male, aged 6 years, was admitted to the Melbourne Hospital on October 24, 1913, suffering from gangrene of both legs, and of the right ear. An accompanying note from Dr. Birch, of Oakleigh, stated that the boy had, on September 12, developed a purpuric condition of both feet, both ears, and both cheeks, the right cheek and right ear being more extensively involved than the left. There were also some small purpuric spots on the arms and knees, which completely disappeared within a short time. The clinical signs of a left lobar pneumonia developed, and the child became acutely ill. After the pneumonia cleared up his general condition improved considerably, but a week before admission gangrene of the feet set in, and spread rapidly up the legs. On admission gangrene of both lower limbs to the junction of the middle and upper thirds of the legs was well marked. A line of demarcation was forming in this situation. Operation was postponed pending a more definite limit of separation. Pulsation was good in both popliteal arteries, and the area immediately above the line of demarcation was perfectly normal. The legs showed both moist and dry gangrene, the feet and toes being hard, dry, shrivelled, and black, while the tissues of the legs from the ankles upwards were foul smelling, moist, and breaking down, especially about the ankles, where the bones were exposed. In each case separation occurred at the ankle joint, the feet being merely attached to the legs by strips of hard skin on each side. The rim of the right pinna was in a condition of dry gangrene, and there was present a dry scaly condition of both cheeks. All the purpuric spots mentioned by Dr. Birch had disappeared. For the first four days the temperature ranged from 99 deg. to 101 deg., and the pulse rate from 130 to 144, the boy looking extremely ill. The temperature was not raised subsequently, and the pulse rate ranged from 90 to 120, while the general condition steadily improved. The Wassermann reaction was negative. He complained of no pain at all, either in the legs or ear during his stay in hospital, and his mother stated that although he had complained of pain in the legs during the first three days of his illness, while the purpuric condition was present, he had not done so since. He had been a perfectly healthy baby, but had suffered from bronchitis each winter, and with the last two attacks she had noticed "small red spots" on both legs, these spots corresponding to the purpuric condition with which the present attack started. He was the youngest of a family of four, all perfectly healthy, the ages being 19, 14, 8, and 6 years respectively. His mother had had one miscarriage 17 years ago. None of the family suffered from chilblains, dead fingers, or any other evidence of vaso-motor disturbance.

On November 3, his general condition had improved so much, and the line of demarcation was so definite, that Mr. Syme amputated the right leg by the hooded-flap method, well above the line of demarcation, and below the knee joint. The stump healed perfectly, the flaps uniting



by first intention. A week later the left leg was similarly dealt with, the foot meanwhile having completely separated at the ankle joint. This stump also healed without any trouble. He was discharged, perfectly well, on November 22,

According to Sir William Osler these cases of extensive multiple gangrene are most common in children, and may progress with frightful rapidity. In the Medico-Chirurgical Society's Transactions (v. xxii), there is an extraordinary case reported, in which the child, aged 3 years, lost in this way both arms above the elbow, and the left leg below the knee. There had also been a spot of local gangrene on the nose. Spontaneous amputation occurred, and the child made a complete recovery. An illustration is given by Weeks, of Marion, Ohio, in which the boy had rheumatic pains in the legs, and purpuric blotches developed before the gangrene began. In the absence of any other known cause, these cases must be ascribed to Raynaud's Disease.

I am indebted to Mr. G. A. Syme, honorary in-patient surgeon of the Melbourne Hospital, for permission to publish this case.

Reviews.

THERAPEUTICS.

The second volume of Dr. Springthorpe's Text-book on Therapeutics, Dietetics and Hygiene, (1) is devoted entirely to Therapeutics, although the author includes under that term a good deal which we think can hardly be regarded as strictly coming under the principles of treatment. The first chapter begins with a consideration of Dr. Mitchell Bruce's scheme of rational treatment, which deals with this subject from the etiological, pathological and clinical standpoints. The next two chapters are devoted to a description of case-taking and the duties and requirements of nurses, and the curricula in force for the training of nurses in Australia and New Zealand. While there is much useful information given here we think that this might have been omitted from a text-book which the author wishes to be used by the Australian student. A brief chapter on psychotherapy follows next, and this is good so far as it goes, but a little more detail on the methods of applying this process would add considerably to its value as a guide for students. Then follow several chapters on drugs in their pharmacological relationships, their excretion with a useful table of incompatibilities, solubilities, and standardisation. Next follows a classification of drugs according to their therapeutic actions. A very useful chapter on Anœsthetics is contributed by Dr. Embly, whose work on this subject is well known. Serum and vaccine therapy, climatology, physio-therapy, massage and electro-therapy are dealt with in succeeding chapters. The book concludes with the author's method of treatment in some of the commoner diseases, the procedure being taken as typical of ordinary medical treatment. Dr. Stirling, senior surgeon to the Melbourne Hospital, contributes some paragraphs on the special treatment of syphilis and the method of disinfecting the hands. The appendices consist of the Melbourne Hospital pharmacopœia, some selected prescriptions and posological tables.

The work shows a wide knowledge of the subject, and contains an enormous amount of information, but, as we have already stated, it is somewhat too prolix, and a good deal of the matter might well be omitted so as to bring the book into a moderate compass, and more suitable to the needs of the student.

CRIMINOLOGY.

The increasing cost of crime in the United States, and the fact that one in every thirty persons in that country is now defective or dependent or both has induced Mr. T. S. Mosby to publish a small book on the "Causes and Cures of Crime." (2) The first part of it is devoted to the subject of etiology, and he treats this under the headings of the cosmic, the social, and the individual factors of crime. The second part deals with prophylaxis, and includes eugenics, asexualisation, education, and social amelioration. The third part deals with Therapeutics—the theory of punishment, the indeterminate sentence and parole, and the new penology. The author, though a lawyer, recognises that the suppression of crime is not at all a legal question, but rather one for physicians and economists, and he attempts to treat in a popular style a subject which ramifies through the mazes of sociological, biological, physiological, and psychological science. We think the author has been fairly successful in this attempt, and he has produced a book which cannot fail to interest those who are working for the amelioration of the race.

(1) "Therapeutics, Dietetics, and Hygiene." An Australian Text-book by John William Springthorpe, M.A., M.D., Melb, M R.C.P. Lond., Senior Physician to the Melbourne Hospital, etc., with illustrations. Vol. 2, Therapeutics. Melbourne: James Little, Collins-street, 1914. Price, 25/

(2) "Causes and Cures of Crime." By Thomas Speed Mosby, Member of the American Bar, Member of the American Institute of Criminal Law and Criminology. Illustrated. St. Louis: C. V. Mosby Company. Melbourne: Stirling and Co. 1913

Medical Matters in Parliaments.

The Governor of New South Wales, in his speech before the new session of the State Parliament, on July 10, 1914, made the following reference to matters of medical and hygienic import:—

> You will be asked to agree to amendments of the Crimes Act, and the abolition of the death penalty, which, at present, is the legal consequence of a large number of offences. . . . .
>
> Measures safeguarding the public health, dealing with the notification of consumption and enlarging the existing powers to deal with that and other infectious diseases, will be placed before you, and further legislative powers will be asked for to permit effective treatment of the growing evil of insanity. . . . .
>
> Important measures affecting the welfare and development of the metropolis will be introduced. These will include Acts for the creation of a Greater Sydney Council and for a City Railway, as well as a Building Act and a Town-planning Act. . . . Bills for the registration of dentists and of veterinary surgeons have been prepared, and will, it is believed, safeguard the interests of the general public as well as confer substantial advantages upon those valuable professions.

The Governor-General of Western Australia made the following references to medical matters in his speech at the opening of the State Parliament on June 30, 1914:—

> The need for properly trained midwives will be met by the erection of a Maternity Hospital, which will be proceeded with at an early date.
>
> Substantial progress is being made with the erection of the Consumptive Sanatorium at Wooroloo, and it is expected that it will be open to receive patients during October next.
>
> My advisers have approved of a grant and subsidy to assist in the establishment of a fund to provide financial aid to the victims of miners' phthisis and their dependents. Legislation will be introduced to create a board for the management of the fund.
>
> The inebriates Act has been put into operation, and steps have been taken to establish homes at Cotesloe and Whitby Falls for the treatment of the victims of alcohol. They are also providing a home for unfortunate women afflicted with inebriety, and have thus given full recognition tto the testimony of modern science that drunkenness is a disease and not a crime, and that the hospital and not the gaol is the proper place for its cure.

The Premier of the Victorian Parliament, on July 9, introduced a bill to amend the Factories Act. He stated that it was practically the same measure as was sent up to the Legislative Council last session and laid aside. The bill was carried through all stages up to, but not inclusive of, the third reading, which was fixed for Tuesday, July 14.

Among the Ministerial Bills for the session of the Victorian Parliament is one to amend the Poisons Act. The measure is mainly for improving the machinery of the Act in the classification of poisons, but it also contains the provision that poisons sold in country stores shall be kept in special bottles, and not sold in any form.

Among the private members' bills is one to be introduced by Mr. Mackey to necessitate the special training and the registration of midwives. A bill with this object has been promised by the Ministry for several years past.

Medical Journal of Australia.

SATURDAY, JULY 18, 1914.

The Meeting of the British Association.

On Saturday, August 8th, the Annual Meeting of the British Association for the Advancement of Science will be opened by an official reception in Adelaide, and the members will be kept busy for over three weeks before the last act closes the meeting in Brisbane on August 31st. The meeting is always one of the first importance from a scientifi point of view. This year especial interest attaches to it. The oversea members are prepared to travel half round the world to contribute to its success, and the programme is full of communications to be delivered by some of the most capable scientists of the Empire on subjects of high theoretical and practical importance. The medical profession in Australia will have an opportunity which has not often been accorded to it of attending the meetings, and either of taking an active part or of swelling the numbers of the "intelligent listeners." The arrangements for the meeting have been wisely adapted to the convenience of both the oversea visitors and the Australian members; the sectional meetings will take place in Melbourne and Sydney, one week being allotted to each city, and during the opening and closing days, spent in Adelaide and Brisbane respectively, selected members of the Association will deliver special discourses. The sections which will appeal more especially to medical men are the physiological, the zoological (including bacteriology, etc.), the anthropological and the economical sections. In the last-named section subjects connected with life problems and mental states will be dealt with. In another column will be found a short account of the significance of the meeting, as well as the provisional programme. At a later date we hope to publish an exerpt from the programme of the sectional meetings which may be of use for the guidance of medical members. In addition to the scientific part of the meeting, there will be social attractions, and members will have an opportunity of renewing the acquaintance, or making it afresh, of many eminent leaders in the scientific world. At entertainments and during excursions members will be afforded the opportunity of interchanging ideas, and of discussing vital problems with experts, and it is the experience of those who have attended large national or international congresses that an acquaintance thus made during the meeting often ripens into a life-long friendship. It is hoped that medical men and women will seize the opportunity of contributing to the success of the meeting and incidentally of benefiting themselves, by joining in large numbers.

THE PHYSIOLOGY OF THE CAECUM.

It is one of the tendencies of modern thought in medicine that an attempt is made to draw a sharp line between vital and non-vital organs. Provided that an organ is not essential in life, the surgeon does not hesitate to remove it, and while in various pathological conditions such a procedure doubtless may save life, the cautious practitioner recognises that it cannot in the large majority of instances be immaterial to the patient. Arising out of the endeavour to distinguish between the vital and the non-vital, there has sprung up a school which teaches that a great part of the human body is either vestigial or of such small physiological importance that the individual is actually the better if these parts be removed. Physiology is able to indicate the functions of many parts and organs of the body, but it must not be supposed that our knowledge at the present time is complete in regard to all the functions of our organs. Thus the tonsil, having but minor functions to perform, is regarded by some surgeons as dispensable. They hold that it is better to extirpate it completely rather than to perform tonsillotomy on persons in whom repeated inflammation of adenoid tissue has been noted. Not long ago a suggestion was made in all seriousness to remove the appendix of all new born infants, with the same regularity as circumcision is performed on the Jewish male infant. The functions of the appendix were regarded as being so unimportant, or even non-existent, that its systematic removal was regarded as a justifiable preventive measure against appendicitis. No doubt, the uterus masculinus, or some of the lymphatic glands in various parts of the body would be consigned to the same fate were they

common seats of primary diseases. The large intestine has more recently been relegated to this category of comparative unimportance, and since many disturbances of digestion are supposed to be due to mechanical or pathological causes associated with the caecum or ascending colon, it was considered that the individual would be better without it. It should be pointed out that this form of reasoning is contrary to the primary tenets of science, and that no physiologist could subscribe to the views elaborated or implied by these advanced surgeons. We may accept the fundamental axiom that every organ and tissue has a definite function to perform, and when this function is not carried out, either on account of some pathological process, or as a result of operative interference, the individual is physiologically the poorer. The surgeon is fully justified in removing an organ or tissue which is affected by some serious pathological process. But the operative destruction of a function, however minor this may appear, should not be undertaken without good cause. Dr. Flynn, in his very able article, which appears in this issue, is in a position to deal specifically with this matter, and gives us his reasons why the caecum should not be removed, unless it be done to save life. He has studied the function of this organ from the point of view of comparative anatomy, and deduces from his observations a highly ingenious and most rational explanation for the existence of it. Direct proof of the correctness of Dr. Flynn's estimate could only be obtained by a systematic series of experiments. If the caecum of a herbivorous, mixed feeding and carnivorous animal were removed with due precaution, it might be possible to ascertain the metabolic effect on individuals of each of these groups. If Dr. Flynn's views be correct the disturbance would be relatively small in those animals, whose caecum is rudimentary, and relatively large in those possessed of a complex caecum. But even in the absence of such experimental evidence, it is reasonable to accept Dr. Flynn's teaching tentatively. The caecum should be held in greater respect than has been done by those modern surgeons who have removed it for inadequate reasons, and the conceptions forming the basis of treatment of conditions commonly spoken of as intestinal toxaemias should undergo modification. His work will also testify to the wisdom of studying the physiology of an organ or tissue, rather than of guessing at its functions from the insecure data gained from the surgical final cause argument.

HEALTH LEGISLATION IN VICTORIA.

The Minister of Public Health, Mr. Drysdale Brown, announces his long-promised amending Health Act this session. It is understood that apart from rectifying many anomalies of the Health Laws, the main features of this Bill will be the provision of whole-time Health Officers in charge of districts and provinces of the State. It is suggested that five or six of these districts will be formed, and that the present Health Officers will continue to act under the District Health Officer. We have no information at present in regard to the remuneration of the part-time Health Officers, but anticipate that the method followed by many Councils of granting a nominal honorarium, often of £20 or even less, will be proscribed, and that an adequate minimum salary will be fixed by law. In England, the British Medical Association has taken this matter in hand, in regard to school medical officers, and has determined that no member may apply for a junior part-time post carrying with it salary of less than £50 per annum for two half-days per week. Allowing for the difference of condition in this country as compared with England, a suggestion may be made that the Health Officers working two and a half days a week should receive a salary of not less than £250 per annum, and that no full-time senior Health Officer should receive less than £750 per annum. It is further proposed that all private hospitals shall be placed under the control of the Health Department, instead of under the joint control of the Board and local Councils, as at present.

Registration of nurses will also be provided for. The Royal Victorian Trained Nurses' Association has on several occasions urged the Government to introduce legislation, giving proper considerations and registration to their members, who have undergone three years' training for general nursing, and twelve months' training for midwifery nursing. Whether the Minister will deal with the question of the constitution of the Health Board, or whether he will more clearly define and extend its powers, remains to be seen. At present the Board is elected by the municipalities, and its members are paid a fixed sum for each attendance.

MEDICAL STRIKES.

The medical profession in Austria has been out on strike, and we learn that after six months they have won the day. The State Insurance in Austria is arranged on lines similar to those obtaining in Germany. The insured person pays a weekly premium on a sliding scale of from 1½d. to 7½d., while the employer pays a contribution of half this amount. The benefits cover medical attendance and medicine treatment in hospital, and sick benefit varying between 1s. 6d. and 4s. a day, according to the wages

earned. Every wage-earner in private, municipal, or State employment (with the exception of domestic servants) are compulsorily insured. Owing to a lack of professional organization, the term of service, and rates of remuneration of the doctors were highly unsatisfactory. The insurance is effected through the agency of insurance societies (Krankenkassen), which are controlled by lay committees. A struggle was waged between these committees and the doctors, when the latter found that they were being overworked and underpaid. Following the example of Germany, a Doctors' League was formed, and through its intermediation better terms were demanded. The committees replied by terminating the contracts of a certain number of doctors, and distributing the patients among the other insurance doctors. This led to the resignation of about 450 doctors in lower Austria. Attempts were made to fill the vacancies thus created by ostracised members of the profession. After a struggle which lasted for six months, the committees of the insurance societies were forced to give way, and the regular members of the profession have again taken up insurance work. It is interesting to note that even a young medical organization is capable of controlling medical affairs under conditions which appeared to be unpromising. The lessons to be drawn from the difficulties arising out of the administration of State Insurance, both in Germany and in Austria, will no doubt be of great value within a short time in Australia. Success can be reckoned with, provided that the demands of the profession are reasonable, and that the individual members are prepared to obey instructions from headquarters.

MANAGEMENT OF INFECTIOUS DISEASES HOSPITALS.

The management of the Hospital for Infectious Diseases in Melbourne has up to the present been vested in a Board, consisting of direct representatives of each Municipal Council. Under the new law the Board will consist of twelve members, six of whom will be appointed by the Governor-in-Council, one by the City of Melbourne, and one each by the five groups of Municipalities. The method of grouping the Municipalities appears to be somewhat arbitrary, and difficulty is anticipated from the desire of each Municipal Council to select one of its body as the group representative. Apart from this difficulty, it is doubtful whether the new condition of affairs will lead to greater efficiency, or to better administration than the old. In matters of hygiene, it is essential that the body administering should not be composed solely of lay members. Experience teaches that lay control frequently exercises excessive economy to the detriment of medical efficiency in regard to the care and treatment of persons suffering form infective diseases. There is no doubt that the financial control should be in the hands of a body which is representative of the ratepayers, but it is equally clear that the electorate would do wisely if it select a number of medical hygienists to serve on this body. It is only by these means that the medical staff of the hospital could have its interests properly taken into account, and as a result of satisfactory arrangements and rate of remuneration, and freedom from irksome lay interference, better work would be guaranteed, and those suffering from infective diseases, who are compulsorily removed from their homes, would receive the best care which it is possible to give them. Apart from the curative side of this question, there is the preventive. It is difficult to imagine how the Board of such a hospital could administer the prophylactic measures which hygiene dictates as essential for the check of preventable diseases in such a manner as to render them effective.

THE FRIENDLY SOCIETIES IN VICTORIA.

It appears that anxiety is being felt by many members of the profession in Victoria in regard to the difficulty which is being experienced with the Friendly Societies. A conference was to have taken place between the Victorian Branch of the British Medical Association and the Friendly Societies' Association. Difficulties, however, were placed in the way of the meeting. We understand that the break in the negotiations arose from the fact that the Order of Foresters were unwilling to participate, and that more recently three or four other Societies, who had originally agreed to take part, are desirous of withdrawing. The Council of the Branch is urging the Friendly Societies' Association to expedite the meeting, and we are informed that the latter body anticipates that a conference will be held within a week or two. It is hoped that all the more prominent Societies will be represented, in order that a free interchange of views may lead to agreement on the points at issue. Notice will be given of the date and other arrangements of the meeting as soon as these are finally determined. This notice will be published in the Journal under "British Medical Association News."

Personal.

Dr. James Dawson has succeeded to the practice of Dr. G. R. Cotton, at Walgett, N.S.W.

Dr. G. A. Vicars, of Sydney, has returned from a two years' visit to Great Britain.

Dr. J. McDonagh has removed to Keithalan, 16 College Street, Hyde Park, Sydney.

Dr. Frank S. Mathwin left Snowtown, S.A., for Port Broughton on July 2, having acquired Dr. Brady's practice.

Dr. Gilbert Brown, formerly of Bute, S.A., has taken over Dr. Mathwin's Snowtown practice.

Dr. H. Hardwick Smith, who for the past six years has been Medical Superintendent at the Wellington Hospital, N.Z., will resign at the end of the year.

Professor Friedrich Trendelenburg celebrated his 70th birthday, in Berlin, on May 24. He was formerly Assistant Surgeon to Langenbeck, in Berlin (1868 to 1874), and then became full surgeon at the Municipal Hospital at Friedrichshain. For a short time he filled the professional Chair of Surgery at Rostock, and then he received a call to the Bonn University, where he built up his great reputation as a surgeon and teacher. In 1895 he occupied the chair vacated by Thiersch, in Leipzic, where he remained until his retirement on account of failing health a few years ago.

Abstract from Current Medical Literature.

THERAPEUTICS.

(18). Secretin as a Therapeutic Agent.

J. W. Beveridge ("American Medicine," April, 1914) states that although it is twelve years since Bayliss and Starling demonstrated the existence of the hormone, now called "secretin," there has been but little attempt to make use of this remedy for the relief of pancreatic insufficiency, impaired liver function, and several intestinal disorders. Bayliss and Starling have contended that therapeutically secretin has little or no value when given orally, and that it should be administered intravenously, but Beveridge does not agree that secretin given by the mouth is of no value. He has had prepared a secretin from the duodena of hogs suitable for oral administration, but he does not state the doses that he employed in the cases he relates. He points out that the pancreas and secondarily the liver depend upon secretin for the initial stimuli required during digestion, and should the formation of secretin cease or become impaired many metabolic changes in the pancreas and liver take place. It is necessary to obtain an accurate knowledge of the patient's alimentary tract by a complete chemical analysis of the gastric contents, and whenever possible of the duodenal secretions, the urine and faeces, combined with a thorough radiographic examination of the stomach and intestines. Then from these findings we are able to determine whether secretin is indicated or not. In such cases as stenosis of the pylorus and duodenum, gastro-enterostomy, short circuiting of the intestine, resection of the colon, intestinal stasis, pancreatic insufficiency, hypertrophic cirrhosis and fat metabolism, secretin is undoubtedly of benefit. So far he has not found any benefit in cases of pancreatic diabetes.

(19). Bacterial Vaccines in Scarlatina.

Kieler and Ferry ("Medical Record," May 23, 1914) prepared a vaccine composed of streptococci isolated from the naso-pharynx of individuals suffering from the typical symptoms of scarlatina, a vaccine composed of an organism isolated from the same situation, called micrococcus "S," and a vaccine composed of a mixture of the two. Two lines of treatment were undertaken, prophylactic and curative. For curative purposes the three vaccines were used as described, while for prophylactic purposes the micrococcus "S" vaccine alone was tested. The vaccines were given over a period of seven months; 106 patients received treatment. A comparison of the cases treated with vaccines, with cases treated according to the usual expectant methods, showed that the vaccines which contained the streptococci had an advantage over the one containing the micrococcus "S" alone, as well as over the usual expectant treatment. This is what might be expected in view of the fact that it is now practically conceded by all authorities that the streptococcus is a large factor in the cause of the complications, sequelæ and fatalities. A vaccine composed of the micrococcus "S" alone is not indicated as a curative agent. On the other hand, this latter preparation has proved of value as a prophylactic agent. It was given in three doses of increasing strength, with three to five days intervals between doses. The doses contained 200, 400, and 800 million bacteria respectively. While the vaccine was used as a prophylactic no nurse contracted the disease, but when the prophylactic treatments were discontinued four out of twenty nurses contracted the disease. These results are sufficiently striking to warrant further use of these vaccines both as curative and prophylactic.

(20). Cymarin.

Wiesel ("Muench. Med Woch," 7th April, 1914) reports that the experiments which he has made with the fluid extract of apocyn. canabin., as recommended by Kraemer, in the treatment of dropsy, ascites, etc., impelled him to use the active substance of this drug, cymarin, which is prepared by Bayer and Co. The pharmacological action of cymarin has been studied in Jena. He found that it exercises a definite and energetic action on the heart, similar to that of digitalis, but more evanescent. He does not regard the short duration of the action as a serious disadvantage, inasmuch as a cumulative effect is avoided. He has found the drug of great value in those cases in which a digitalis action is essential, when toxic symptoms due to digitalis are appearing. Severe cyanosis and dyspnoea observed in a case of myocarditis, complicating general adiposity, was benefited to an extraordinary extent within ten minutes of an intramuscular injection of 0.001 gram of cymarin. He has obtained excellent results in cases of puerperal albuminuria and uraemia. Cymarin may also be given by the mouth in tablet form, and is well tolerated for several weeks. He recommends it as a powerful and rapidly acting substitute for digitalis in all cases of cardiac insufficiency, in myocarditis, in all forms of endocarditis, and in nephritis with uraemic symptoms.

(21). Thorium X in Experimental Anaemia.

M. W. Tschernorutzki ("Charkowskij Med. Journ.," 1913) has examined the question of experimental anaemia and the influence of radio-active substances on the blood. Rabbits were rendered anaemic by means of phenylhydrazin. The changes found in the blood cells were peculiarly like those of pernicious anaemia. Doses of between 50,000 and 215,000 Mache units of thorium X were applied each week for therapeutic purposes. No regeneration of the blood cells was observed when the smaller doses were applied, and when larger doses were given the blood changes became exaggerated. The hæmoglobin content, the volume and the number of red cells were all diminished.

(22). The Action of Combined Drugs.

Buergi ("Mediz. Klinik," April 5, 1914) has made a special study of the modification of the action of drugs by the combination of two or more drugs. He distinguishes between the summation of effect of combined drugs, and the increasing of potency by combination. Drugs of the same series with identical pharmacological action when combined, yield an effect equal to that of each drug given separately. Drugs which exercise a different pharmacological action, even though the clinical result be identical, enhance their actions when combined. For example, belladonna has no narcotic action by itself. When large doses are given the other physiological symptoms produced prevent narcosis. But if belladonna prevent together with any of the ordinary narcotics in small doses, the narcotic action is materially increased. In some cases the enhancing of the potency of a narcotic drug may be present when the one drug is given in extremely small doses, while the reverse takes place when larger doses are employed.

UROLOGY.

(23). Hæmaturia in Bleeders.

Mankiewicz ("Zeibschr. f. Urologie," 1913, No. 11) reports two cases of hæmaturia occurring in bleeders, which he has studied with care. The hæmaturia set in after a hot bath in each case. Both were members of a hæmophilic family, and had had hæmorrhages from other parts of the body before. Mankievicz gives a detailed review of the literature of the subject. He was able to find 13 undoubted cases of hæmaturia in bleeders without any cause of the bleeding being found either in the kidneys or in the urinary tract. In the treatment he recommends he restricts the intake of fluid to the smallest amount, and for as long time as possible, and prescribes large doses of gelatine up to 40 grammes a day per os or subcutaneously. Of other methods of treating bleeders the following, in his opinion, are worthy of trial: Intravenous injection of 3 - 6 ccm. of 5 per cent. solution of Witte's propepton, and subcutaneous or intravenous injection of horse-blood serum or even of antidiphtheric serum in urgent cases. Calcium chloride or calcium lactate in doses of up to 15 grammes, taken by the mouth, may be tried. If these measures fail, transfusion of blood, as described by Carrel, from the radial artery to the cubital vein, may be attempted as a last resource.

(24). The Practical Value of Endoscopy of the Urethra Posterior.

Max Roth and Mayer ("Zeibsch. f. Urologie," 1914, 1) give the results of posterior urethroscopy by the irrigation urethroscope, as applied in Casper's large urological clinic and policlinic, in Berlin. They state that

the value of this new method of investigation, which was devised by Goldschmidt in 1906, is now generally recognised. The patholigical changes which these authors found in the different affections of the posterior part of the urethra are the following: —1. Gonorrhea: Swelling of the mucous lining of the internal sphincter and of the vesiculæ seminalis, etc.; cicatrical contractions and strictures, granulations and polypi. The opinion formerly held that these changes in the posterior part of the urethra were rare was proved to be erroneous. The symptoms which accompany these changes are discharge, filaments, terminal hæmaturia, involuntary emission of semen containing blood, etc. Subjective symptoms were found only in 30 per cent. of the cases. The pathological changes found in cases of chronic non-gonorrheal urethritis were similar to those mentioned above. Local treatment by galvano-cauterization, etc., effected a cure in all the cases. 2. Neurasthenia sexualis: In cases of spermatorrhœa or frequent involuntary emission of semen, gaping of the utriculus and the ejaculatory ducts was noticed in most cases without any other changes. The authors conclude that there was atony of the sphincters. Frequently the colliculus was found hyperaemic and succulent. In opposition to many others, the authors consider these changes as a sequence, not as a cause of the trouble. They think that masturbation and increased libido due to abstinence are the primary causes in many cases. Other cases are of psychopathical origin. Only when all these causes are excluded can the local changes in any way be held responsible for the condition. They do not believe that there is any connection between the local changes and impotence. They ascribe the success of local treatment to psychic influences, which are at times very strong. Local treatment is in their opinion indicated only when all other methods have failed. They question whether polypi, which are frequently present in these cases, ever induce impotence. In 80 per cent. of the cases where a burning sensation in the testes or urethra was the main symptom, the posterior urethra was found to be considerably swollen; but they do not regard this as the cause of the trouble. Cauterization frequently produced temporary improvement, but very seldom a permanent cure. 3. Polypi in the region of the sphincter or colliculi were detected in 60 per cent. of the cases of pronounced trouble of the micturition as pollakuria, dysuria, stranguria, in which no other cause could be found in the urinary tract, and brilliant results were obtained by cauterization with the aid of the operating urethroscope.

(25). Nephrectomy in Bilateral Renal Tuberculosis.

Bachrach ("Zeibschr. f. Urologie," 1914, Heft 2) writing from Zuckerkandl's clinic in Vienna, records five cases of bilateral renal tuberculosis in which the more affected kidney was removed. One patient died shortly after the operation, the four others are still alive, one more than two years after the operation. The immediate effect of the operation was striking in all cases. The fever disappeared, the general state of health improved, and the bladder symptoms diminished, and the weight increased. No claim is made of permanent cure. On the basis of his own observations and of the clinical data published by Brongersma, Albarran, Kuemmel, Israel, Ekehorn, and Rochet, he elaborates the following indications: In cases of bilateral renal tuberculosis, nephrectomy of the more affected kidney is indicated as a palliative operation:—(1) If fever be due to a mixed infection of the more affected kidney. (2) If discharge of large quantities of pus cause considerable irritation of the bladder. (3) If so much of the parenchyma of the kidney which was primarily affected be destroyed that the organ is no longer able to discharge its function.

(26). Incrustated Cystitis.

Francois ("Journ. d'Urologie," 1914, i) has observed seven cases of cystite incrustee in the urological department (Prof. Marion) of the Hospital Laribosiere, in Paris. In view of his own experience and that of other clinicians he describes the condition in some detail. Incrustated cystitis is the term for an ulcerative cystitis, more or less localised, with deposits of calcium salts on the surface and in the wall of the bladder. It occurs as a sequela of ordinary severe chronic cytitis. The clinical symptoms resemble those of chronic cystitis, but are mostly aggravated and include dysuria, stranguria, pollakuria, hæmaturia. The capacity of the bladder is much reduced, the urine alkaline. Incrustated filaments are pathognomonic, but are found only in 25 per cent. of the cases. The complications which are most to be feared are retention of urine and pyelonephritis. The diagnosis can only be made by means of cystoscopy. Besides the ordinary changes of severe cystitis, multiple whitish patches are seen through the cystoscope, of spongelike appearance, with irregular outlines. The neighbouring mucosa is greatly inflamed. These patches can be readily distinguished from deposits of pus by rinsing the bladder out, and by repeated examination. The differential diagnosis from leucoplakia is often impossible, but this is not important, since the treatment is the same for both conditions. Stone in the bladder differs in appearance from the patches not only in regard to it's shape and mobility, but also in regard to its comparatively regular surface. Incrusted carcinoma is mostly single, and often shows not-incrusted parts which render the diagnosis clear. The prognosis of untreated cases is bad. Spontaneous cure or cure by medical means has never been observed. The treatment consists of the usual urinary antiseptic remedies, washing out the bladder and instillations at first. If these means fail, curetting through the urethra can be attempted in women. It is advisable to perform cystotomy, and to curette the ulcerated parts or to excise them, and then to drain the bladder through the wound for two or three weeks.

(27). The Transvesical Method of Operating on Vesico-vaginal Fistulæ.

Paris and Francey ("Journ. d'Urologie," 1914, No. 3) deal with the indications and technique of the transvesical method of operating on vesico-vaginal fistulæ. They state that the following conditions are particularly suitable for its application:—(1) Where vaginal methods have been tried without success, and under all circumstances before colpocleisis is resorted to. (2) When the vulva and vagina are greatly contracted by scars, and when the fistula cannot easily be reached even after vulvotomy. (3) Where the fistula is situated quite near the ureteral orifices, or in the "bas-fond" as in vesico-uterine fistulæ. (4) In cases which are complicated by vesical calculus or growth of the bladder. In regard to the technique of this method, it is very important to delay the operation until the scars which were associated with the formation of the fistula are firm, and until retraction is complete, that is to say at least two to three months after the trauma. The cystitis and the vaginitis must be treated carefully before the operation. The operation consists in an ordinary cystotomy, the bladder being opened as freely as possible, to allow of good access to the fistula. The edges of the fistula are freshened and the bladder wall separated from the vaginal wall as far as possible, freeing the fistula completely. This must be done to a great extent by cutting freely with the knife. The bladder-flap must be made as strong as possible. At the conclusion of the operation the ureter is reimplanted. Catgut sutures are inserted in a vaginal and a vesical layer. The cystotomy wound is closed in two layers, being left room for an intra-vesical tube. The bladder is drained through this tube and a catheter. The patient is put to bed in a lateral or ventral position. The bladder is washed cautiously every day. The tube is removed after ten days. Results: Out of six cases four were completely cured. One case healed up, but incontinence resulted as a result of destruction of the sphincter. Failure occurred in one case which was operated on too early. Of thirty-one cases recorded complete cure was effected in 60 per cent. One case died as the result of ligaturing of both ureters.

THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

The eighty-fourth annual meeting of the British Association for the Advancement of Science under the patronage of his Majesty the King, will be held in Australia during next August. This meeting will be presided over by Professor William Bateson, F.R.S., Director of the John Innes Horticultural Institution, Surrey, a distinguished student of heredity, whose "Materials for the Study of Variation" forms a landmark in modern investigation of the problem of inheritance. The first half of his address will be delivered in Melbourne, and the second part, dealing with the eugenic aspect of heredity, will be given in the Town Hall, Sydney, on the evening of Thursday, August 20th, 1914.

The official meeting opens at Adelaide on August 8th, is continued in Melbourne on August 13th, in Sydney on August 20th, in Brisbane on August 27th, and terminates at Brisbane on September 1st. The Association will meet in Sydney from August 20th to August 26th. Sectional meetings will be held on August 21st, 25th, and 26th for discussions and the reading of papers. Evening discourses will be delivered on August 21st and 24th by Sir Ernest Rutherford and Prof. Eliot Smith. The week-end from August 21st to August 24th will be devoted to excursions to enable the overseas visitors to see somewhat the character of the country away from the seaboard. His Excellency is giving a garden party, the State Government is entertaining the members at a luncheon, the Lord Mayor is giving a ball, and the Senate of the University, with the co-operation of the scientific societies, a conversazione.

The scientific proceedings will be conducted in twelve sections, in four of which—anthropology, zoology, economics, and physiology—papers of special interest to medical men will be read. It is hoped that one morning will be devoted to a discussion on anæsthetics.

Members may be enrolled by application and payment of subscription to the hon. Treasurer, H. G. Chapman, M.D., Royal Society's House, 5 Elizabeth Street North, Sydney. The terms of subscription, by special arrangement for the Australian meeting, are: Life members, £10; annual members (a) attending meetings at more than one centre, £2; (b) attending meetings at Sydney only, £1. Associates, attending meetings at more than one centre, £1. Ladies may join at the same terms but have in addition the privilege that their tickets can be transferred to other ladies. It is necessary to point out that the proceeds from subscriptions are devoted solely to the promotion of scientific research through committees, grants in aid, etc. Members and associates' tickets entitle the holders on equal terms to participation in all meetings, evening discussions, etc, during the annual meeting. Members are also eligible to serve as officers and on committees, and will subsequently receive the annual report free. Members will also receive the Federal and State Handbooks, two volumes of 600 pages each, containing much scientific and general information. Early enrolment is earnestly desired, as a large local membership is essential to the maintenance of the scientific activity of the British Association.

OFFICIAL PROGRAMME.

The Official Programme of the forthcoming Meeting of the British Association for the Advancement of Science contains the following announcements:—

Adelaide Meeting.

Saturday, August 8.—Opening day, 8.30 p.m.: Reception by the Government of South Australia, at the Town Hall.

Sunday, August 9.—Citizens' lecture on "Saving and Spending," by Professor E. C. K. Gonnor, M.A., President of the Economics and Statistics Section.

Monday, August 10.—Excursions leave for Angaston, Milang (for inspection of aborigines), the hills near Adelaide, and Sturt River, Hallett's Cove, and Inman Valley. Luncheon by Mr. Charles Angas, at Angaston. 8.30 p.m.: Discourse in the Town Hall by Sir Oliver Lodge, D.Sc., LL.D., F.R.S. (President 1913-14, on "The ether of space." His Excellency the Governor will preside, and welcome the visitors.

Tuesday, August 11.—Excursions to Roseworthy Agricultural College, Mannum, and the Hills. 8 p.m.: Discourse, in Town Hall, by Professor W. J. Sollas, D.Sc., LL.D., Ph.D., F.R.S. (Oxford), on "Ancient Hunters." Ball, by the Mayor of Adelaide (Mr. A. A. Simpson).

Wednesday, August 12, 10 a.m.—Presidential Address in Section E (Geography), by Sir Charles P. Lucas, K.C.B., K.C.M.G., in the Town Hall. 11.30 a.m.: Presidential Address in Section M (Agriculture), by Mr. A. D. Hall, M.A., F.R.S., in the Town Hall.

Melbourne Meeting.

Thursday, August 13.—Afternoon: Overseas members attend at the reception room (Wilson Hall), at the University, to make final arrangements with regard to excursions. Evening: Reception at Federal Government House by their Excellencies the Governor-General and Lady Helen Munro-Ferguson.

Friday, August 14.—Morning: Meetings of the twelve Scientific Sections at the University. Afternoon: (1) University Graduation (special invitation), in the Melba Hall, at 2.15 p.m; (2) Reception by the Rt. Hon. the Lord Mayor of Melbourne, at 3.30 p.m. Evening: Installation of President and Presidential Address (Part I.) in the Auditorium, at 8.30 p.m.

Saturday, August 15.—Excursions to Ballarat, Bendigo, Bacchus Marsh, Marysville, Emerald, Warburton, National Park, and Werribee. Evening: Citizens' Lecture in the Town Hall, at 8 p.m., by Dr. W. Rosenhain, F.R.S. (National Physical Laboratory), on "The Making of a Big Gun."

Monday, August 17.—Week-end Excursions return Afternoon: Discourse in the Auditorium, by Professor E. B. Poulton, F.R.S. (Oxford), on "Mimicry," at 4 p.m. Evening: Reception by the State Government, in the Public Library, National Gallery, and Museums.

Tuesday, August 18.—Morning: Meetings of the twelve Scientific Sections, at the University. Afternoon: Reception in Botanical Gardens, by members of Scientific Societies. Evening: Discourse in the Auditorium, by the Astronomer-Royal (Dr. Dyson), on "Greenwich Observatory," at 8.30 p.m. Citizens' Lecture, in the Town Hall, by Professor H B. Dixon (Manchester), on "Explosions," at 8 p.m.

Wednesday, August 19.—Morning: Meetings of the twelve Scientific Sections, at the University. Afternoon: The Visiting Party from Overseas departs for Sydney by special train, at 2.15 p.m.

Sydney Meeting.

Thursday, August 30.—Afternoon: Overseas visitors attend the reception room in the Great Hall at the University, to make their various arrangements. Evening: Presidential address by Professor William Bateson, M.A., F.R.S., part II., in the Town Hall.

Friday, August 21—10 a.m.: Sectional Committees meet. 10.30 a.m.: Presidential address in certain sections, and meeting of all sections at the University. 1.30 p.m.: Official Luncheon by the State Government. 3 to 4.30 p.m.: Garden Party at Cranbrook, by his Excellency the Governor. Evening: Discourse in the Town Hall, by Sir Ernest Rutherford, M.A., D.Sc., LL.D., F.R.S. (Manchester), on "Atoms and Electrons."

Saturday, August 22.—The week-end and day excursions, including Federal Territory, Canberra and Burrinjuck Dam, Coonamble and Walgett, West Maitland and Hunter district, dredging excursion in Sydney Harbour, Jenolan Caves (two excursions), Narromine to view Arborglyphs, Murrumbidgee irrigation area, via North Coast to Brisbane; Hawkesbury and Newport, National Park, and Port Hacking, Gladesville Hospital, Electrolytic Works at Port Kembla, Bulli, and Cataract Dam, Hawkesbury Agricultural College, Wentworth Falls, Katoomba, and Blackheath. Also, several shorter excursions nearer Sydney. Evening: Citizens' Lecture, in the Town Hall, by Professor Benjamin Moore, M.A., D.Sc., F.R.S. (Liverpool), on "Brown Earth and Bright Sunshine."

Monday, August 24.—Morning and afternoon excursions. Evening: Discourse by Professor Elliot Smith, M.A., M.D., F.R.S. (Manchester), on "Primitive Man." Ball at the Town Hall, by the Lord Mayor (Alderman Richards).

Tuesday, August 25.—Morning: 10, Sectional committees meet; 10.30, Presidential addresses in certain sections, and meetings of all sections at the University. Afternoon: 1, Semi-private sectional lunches; 2.30, Harbour excursion by the Commissioners of the Harbour Trust. Evening: Citizens' Lecture at the Town Hall by Professor H. H. Turner, D.Sc., D.C.L., F.R.S.

(Oxford), on "Comets." Conversazione at the University and graduation ceremony.

Wednesday, August 26.—Morning: 10.30, Meetings of all sections at the University.

Brisbane Meeting.

Friday, August 28.—Morning: 10.10, Presidential address in the Agricultural Section, by Mr. A. D. Hall, M.A., F.R.S. (London), in the Albert Hall, on "Tropical Agriculture"; 11.30, Vice-Presidential address in the Physical Section, by Professor E. W. Brown, M.A., D.Sc., F.R.S. (University of Yale, America), in the Albert Hall, on "Cosmical Physics." Afternoon: Reception by the Mayor of Brisbane. Evening: Discourse in the Albert Hall by Professor Henry E. Armstrong, D.Sc., LL.D., F.R.S. (London), on "The Materials of Life;" discourse in the Centennial Hall, by Professor G. W. O. Howe, M.Sc. (London), on "Wireless Telegraphy."

Saturday, August 29.—Week-end and day excursions to Gympie, Ipswich, Dulacca Prickly Pear Experimental Station, Rockhampton, and Mount Morgan, Blackall Ranges, Cleveland and Redland Bay.

Monday, August 31.—Morning: Excursions. Afternoon: Reception by the State Government. Evening: Citizens' Lecture in the Exhibition Hall, by Dr. A. C. Haddon, M.A., D.Sc., F.R.S. (Cambridge), on "Decorative Art in Papua." Concluding meeting in Centennial Hall, with discourse by Sir Edward Schäfer, LL.D., D.Sc., M.D., F.R.S. (Edinburgh), on "The Place of Physiology in a General Education."

British Medical Association News.

SCIENTIFIC.

A Clinical Evening of the N.S.W. Branch was held on 10th July, 1914, at te B.M.A. Building, Elizabeth Street, Sydney, the President, Dr. David Thomas, in the chair.

Dr. Guy Griffiths demonstrated some interesting books in the Library of the New South Wales Branch of the British Medical Association. He said that in using the library he had been struck by the fact that few other members did so, and that while the library was by no means complete it yet contained many valuable works of reference, e.g., an apparently complete set of bound volumes of the British Medical Journal, in which were to be found many valuable plates, for instance those illustrating and contrasting the lesions of Vaccinia and Small Pox, in the Jenner Centenary number, 1896; and similar sets of the "Lancet," "The Practitioner," "The Australian Medical Gazette," and "The Australian Medical Journal," and transactions of the Australian Medical Congress. There were also recent systems of Medicine and of Surgery, the best of their kind, and many of the well-known works in all the branches of medicine. A series of clinical, pathological and anatomical atlases were well worthy of study, and so, too, were many volumes of the Sydenham Society's publications, notably Trousseau's Clinical Lectures and Koch's epoch-making work, which many men seem to think had never been translated into English. There were few of the early classics, but among these few were Cooper's Dislocations and Smellie's Midwifery. Among works by Australian authors were those of Wilkinson, Lendon, Graham, Wright, and Stewart McKay. Single volumes of many of the above colections were laid on the table for inspection.

Dr. J. B. Nash exhibited a specimen of hypernephroma of the right kidney region of a patient, whom he had shown before the Branch about two years ago (A.M. Gazette, 7th Sept., 1912, p. 243 et seq.) A stereoscopic photograph illustrated the dilatation of the superficial of the abdomen and thorax. In these veins the blood flowed from both saphenous openings upwards, this being the reverse of the normal direction. They discharged into the axillary veins, while subsidiary streams found a channel into the lumbar, the deep epigastric and the intercostal veins. The speaker dealt with the serious effect of the blockage of these main venous channels.

Intermittent hæmaturia was a cardinal sign for locating the seat of obstruction and the diagnosis of disease in the right kidney was therefore made. Acute hæmorrhagic ascites was present and required aspiration and incision on repeated occasions. The patient was earning a living by active manual work within two months of his death. The right kidney, its pedicle, several inches of the inferior vena cava, the stomach, the first and second parts of the duodenum, the liver, the right segment of the gastro-hepatic omentum, and the head of the pancreas were found at the post-mortem examination to be involved in the tumour. The renal tissue had been almost entirely replaced by the neoplasm. Dr. Nash described the tumour in some detail. It consisted of numerous small blood-vessels, with tissue cells of the adrenal type surrounding them. There were numerous cysts, and the renal pelvis was replaced by fibrous bands. After dealing with the explanation of the hæmorrhagic ascites, he pointed out that no cause could be discovered for the rapid outflow of blood and serum from the portal system. Pathologists were not yet agreed as to whether hypernephromata have their origin in adrenal nests. The degree of malignancy of these growths was very variable. Early operation, as soon as the diagnosis can be made, may lead to good results. Dr. Nash recalled Harrison Cripp's statement that there is very slight, if any, anastomosis between the radicals of the hæmorrhoidal commencements of the inferior mesenteric vein and the radicals of the internal iliac vein, and suggested that it was probably correct that no anastomosis exists between the systemic and portal veins.

Dr. Nash further exhibited a solid tumour of the tail of the pancreas. The tumour, a carcinoma, was of the ordinary type, the point of interest being its situation. He pointed out that the tail of the pancreas is very rarely the seat of a neoplasm.

In the discussion Dr. Stacy mentioned a case of hypernephroma, which had been subjected to early operation, but recurrence occurrel. He was doubtful whether these tumours actually arose from an adrenal tissue.

Dr. J. C. Windeyer demonstrated a specimen removed from patient aged 37 years. The patient was seized, on June 9, 1913, with severe abdominal pain on the right side and vomiting. She was a stout woman. A year previously she had noticed increase in size of the abdomen, and had vomited for some months; the menses were regular. In February, 1913, menstruation ceased and there had been morning sickness since that time. On examination, a mass in the posterior fornix was discovered, and the diagnosis lay between a fibroid, ectopic gestation and a semi-solid tumour of the ovary. An operation was performed, and the uterus was removed supra-vaginally; the tubes and ovaries being left. The specimen consisted of large multiple fibroids, with a five months' pregnant uterus attached to the inferior posterior aspect of the mass. The same speaker exhibited a specimen of general dropsy of a fœtus and placenta. The patient, who had had a miscarriage a year previously, was admitted into hospital on July 1, 1914. The abdomen was enormously enlarged; the fœtal heart sounds were heard up to July 3. Labour started at 3 a.m. on the 4th and ended at 8 p.m.; the fœtus was still-born. The placenta was expelled ten minutes after the birth of the child. It weighed 4½ lbs., was pale in colour and the material surface was rough and irregular. The fœtus weighed 9 lbs. Dr. Windeyer pointed out that the largest placenta on record weighed 6 lbs.

Dr. Poate spoke of a case of adeno-carcinoma of the right upper maxilla. The patient had received a blow 15 months previously, and shortly after noticed a swelling of the cheek. The lachrymal duct had become blocked and there was occasional diplopia. After performing a preliminary laryngotomy, he removed the maxilla. The growth had eroded the cheek in front and had perforated the hard palate, orbit, inferior turbinals, and ethmoid cells, and involved the pterygoid muscles. A recurrence in the cheek and pterygoid region was removed 10 months later, and a second recurrence was now present. He proposed to remove this.

He also recounted the history of a girl, 18 years of age, who complained of acute pains in the right side of the abdomen. There was no evidence that she had previously suffered from enteric fever. The diagnosis of appendicitis was made, and an operation performed. The appendix was

found behind the caecum bound down by a few adhesions It was not acutely inflamed. It was removed. The gall-bladder was then investigated and was found to be greatly distended. A fresh incision was made, and the gall-bladder opened. It contained purulent bile-stained fluid. The patient did well for 18 days, when vomiting set in, which, however, responded to treatment. The Widal test was positive, but bacteriological examination for typhoid bacilli in the urine and faeces was negative. An abundant growth of typhoid bacilli was obtained from the bile; the bacilli agglutinated a test typhoid serum and gave all the usual biological tests of typhoid bacilli.

Dr. Poate also gave an account of a case of hypospadias with spontaneous ruptures of the bladder. Micturition had during the past year, become difficult, and the stream had been getting smaller. Two days before admission he had had retention for some hours. On the following day the retention returned and was accompanied by great pain in the pubic region. The lower part of the abdomen became very swollen. When admitted into hospital the patient had a sub-normal temperature, and all attempts to pass a catheter failed. The dull area was aspirated suprapubically and viscid urine, containing pus and blood, escaped under considerable pressure. His condition was relieved for the time, but became desperate in the evening. Under spinal anthæsthsia with stovaine, the bladder was exposed and opened. A great quantity of blood and urine escaped. The bladder was drained and the patient returned to bed in a very critical condition. He improved during the following days, and ten days after the first operation an attempt was made under stovaine anæsthesia to pass a filiform bougie. This failed. A stricture was found near the triangular ligament, through which no instrument could be passed. An opening was made in the perineal urethea, and a rubber tube was passed into the bladder. The patient made a steady recovery, and Dr. Poate reported that he was considering the advisability of performing a plastic operation to restore the patency of the urethra.

In the discussion which followed, Dr. Stacy congratulated Dr. Poate on the excellent result obtained in his superior maxilla case, and further remarked that in all cases showing the clinical signs of cholecystisis, he considered that it was essential to ascertain whether the patient had suffered from typhoid fever.

Dr. Fiaschi, Junr., was very emphatic in regard to the advisability of retaining a central incisor tooth, as had been done in Dr. Poate's maxilla case,, for the purpose of the subsequent use of a prosthesis, which he regarded should be constructed for cosmetic rather than masticating purposes. The prosthesis should not extend far back, as it would tend to irritate the scar. He spoke in high terms of praise of the result obtained by Weber's incision in these cases.

Dr. Corlette mentioned a case of acute appendicitis in a patient who was suffering from enteric fever. He operated in spite of this condition.

Dr. Adams recorded a case of cystinuria in a man aged 25, who was suffering from an attack of renal colic. The usual treatment led to the passage of a stone. Subsequent examination of the urine showed a slight cloud of albumen, but no sugar. Microscopically, great quantities of clear colourless hexagonal crystals of cystin were found. The calculus was composed of a mixture of cystin and phosphates, with a trace of albuminous material. Four years ago, the patient suffered from severe lumbar pain, and subsequently passed a quantity of gravel; a year later he passed a quantity of gravel, and two years ago a small stone was passed. In November, 1913, after an attack of renal colic, a stone became impacted in the ureter, and was demonstrated by X-rays; this stone was subsequently passed.

Crystin in the urine is usually hereditary. Allbutt and Rolleston hold that cystinuric patients are unable to complete the oxidation of cystin normally formed in the breaking down of protein—and a similar inability to oxidise the amino acids normally formed in the disintegration of protein—such as leucine and tyrosin, when these bodies are added to their food. Allchin is of opinion that it is practically an expression of intestinal putrefaction.

In the speaker's case, the condition did not appear to be hereditary. The treatment he adopted was a mixture of liquid paraffin and salol, with a view to rendering the bowel as clean as possible, but subsequent examination showed no improvement in the cystinuria. He asked those present to make suggestions as to treatment

Dr. Stacy, in the course of his remarks, favoured the view that intestinal putrefaction was the cause of cystinuria.

Dr. Max Herz read a communication on a case of double ankylosis of the jaw. The patient had suffered three-and-a-half years previously from an infective arthritis, probably of gonococcal origin, which led to complete ankylosis of the jaw articulations. She showed the usual bird-like profile, and could only take fluid or semi-fluid food. An attempt had been made by another practitioner to open the jaw forcibly, but without success. Dr. Herz spoke of the work of Humphry, Esmarch and Rizzoli in these cases. Helferich had devised a plan of resecting a portion of the maxilla, close to the scar, and interposing a flap of temporal muscle. In Dr. Herz's case, he utilised a flap of the temporal fascia. A curved incision, as recommended by Huguier, was made and on exposing the joint, it was found that osseous ankylosis was present on both sides. The result of the operation was highly satisfactory, and the artificial joints performed their functions well. Dr. Herz hoped to make new hip joints in suitable cases.

In the discussion, Dr. Stacy stated that pain is only present in these cases before bony ankylosis takes place. He considered that it was justifiable to speak of cure by means of the operation.

Dr. Fiaschi regarded the result in this case as very excellent, and spoke of the experience of an American case, in which there was difficulty in opening the jaw.

In his reply, Dr. Herz disagreed with Dr. Stacy, that anything approaching cure could be obtained.

Dr. Hamilton Tebbutt read a paper on a case of influenzal meningitis, which will be published in a subsequent issue.

A meeting of the Queensland Branch was held on June 5, 1914, at the B.M.A. rooms, Adelaide Street, Brisbane, the president (Dr. Alex. Marks) in the chair.

Dr. D. A. Cameron exhibited sections of perithelioma from the abdominal cavity of a woman aged 50 years. The patient had been operated on, on January 12, 1913, for a large multilocular ovarian cyst on the left side. At the operation a number of minute nodules were seen on the peritoneum of the broad ligament. In July 8, a second operation was performed. A large quantity of ascitic fluid and a very large multilocular ovarian cyst on the right side were removed. In January, 1914, she complained of intractable constipation and attacks of pain, and as these symptoms persisted, her abdomen was opened for the third time on May 1. After much fluid had been evacuated, a large number of flat, circular, hard growths were found scattered over the peritoneum. Many of these growths, which varied in size from that of a pin's head to that of a sixpenny bit, were removed. On microscopical examination, they were found to consist of fibrous tissue, traversed by blood-vessels, around which endothelial cells were arranged, in from three to five layers. The tumours were diagnosed as peritheliomata.

Dr. D. A. Cameron also exhibited a myxomatous tumour, which had been removed from the skin below the left clavicle of a young woman. The patient had been treated by a herbalist, but without success, severe hæmorrhage from the tumour had occurred and led her to seek Dr. Cameron's assistance. The tumour proved to be an almost pure myxoma, but in places the cells appeared to be of a sarcomatous nature.

Dr. Halford gave an account of recent travel, and experience of hospital work, in America, especially in New York and Rochester (Mayo Brothers' clinic.)

The president, in thanking Dr. Halford, said that Dr. Halford's address demonstrated the fact that first-hand impressions of travel and work elsewhere were always of the utmost interest.

In reply to questions Dr. Halford said that he was most struck by the work on the thyroid gland being done in the Mayo Brothers' clinic, both surgical and physiological (experimental) and in gall-bladder operations. Cholecystectomy was the method of choice. There was of course, an infinite variety of these cases; and in all of

them thoroughness appeared to be the keynote of the surgical treatment.

In uterine displacements, Dr. C. Mayo recommends Alexander-Adams' operation for simple retroversion, when the uterus is easily retained in position. The round ligaments were always reliable; if a good ligament were not found, the fault lay with the operator. He did not split the ring, but pulled out the ligament, not exposing the canal. In other cases, he opened the abdomen, pulled the round ligament through the broad ligament and fixed them together behind the uterus; then moving the combined ligaments up and down, he found the most suitable spot to apply them to the back of the uterus with the greatest efficiency and there fixed them. He (Dr. Halford) had been greatly impressed by being shown, by Dr. Gough, Emmett's original note-books, which were the most remarkable monuments of industry and capacity he had seen. Written in a beautifully clear hand and frequently and artistically illustrated by Emmett himself, there were twenty volumes of these notes on cases dealing with many varieties of gynæcological conditions; and it was easy to understand how he had come to be looked on as a man of commanding eminence in his sphere of work. What could not be understood was the mind of those who, being specially privileged by the authorities to inspect these treasured volumes, had purloined some of the choicest illustrations.

In connection with Dr. Charles Mayo's work, Dr. Halford illustrated his terse and epigramatic method of teaching by his remark on the surgery of neurasthenia:—"Every movable organ has been fixed and every fixed one mobolised, and he could not see that anyone was much the better for it."

Dr. J. C. Elkington, Chief Quarantine Officer for Queensland, has accepted the position of Brisbane correspondent to the Ship Surgeons' sub-committee of the British Medical Association. This sub-committee, sitting in London, is investigating the question of shore-pay and annual leave on full pay for ships' surgeons, with the view of recommending to the Central Council what action, if any, should be taken.

MEDICO-POLITICAL.

The following resolution was passed by the Council of the New South Wales Branch of the B.M.A., at its meeting on 7th July:—

> "If any member shall have lost his position as Medical Officer of any Friendly Society Lodge in consequence of any resolution of the Branch, or of the Council, no other member shall accept such appointment except with the permission of
>
> (a) the Local Association of members to which he belongs;
>
> (b) the Local Association of members in whose area the Lodge meets; and
>
> (c) the Council"

in substitution for a previous resolution on the same subject passed on 18th November, 1913, which was rescinded.

UNDERPAID HOSPITAL MEDICAL OFFICERS.

Complaints have been received by the Council of the Queensland Branch of the British Medical Association of a practice which, if continued and extended, will have a very serious effect on the position of medical practitioners In certain districts, notably Mareeba, Friezland, Chillagoe, Stannary Hills, Mungana, Wolfram Camp, Mount Molloy, Mount Morgan, and otners, a single person who subscribes from 6d to 1s a week (or in the case of married men from 9d to 1s a week) to the local hospital fund has a right to claim domiciliary as well as hospital treatment. The State Government contributes a sum to the hospital funds equivalent to £2 for every £1 received as subscriptions. The Mareeba District Hospital is now alvertising for a medical officer at a salary of £450 per annum, with the right of private practice. This district comprises a township of 800 inhabitants and a rural population of 2200; of the total of 3000 persons, considerably more than 2000 are subscribers to the Hospital Fund. The value of the right of practice outside the hospital would thus be illusory. For £450 per annum the Medical Officer would be expected to attend to any patient on the district in their own homes, or in cases necessitating institutional treatment, in the hospital. Some of the subscribers draw salaries of nearly double that amount. It is pointed out that the system, if supported by the Government contribution, will have the effect of destroying private practice in the districts referred to, and of providing medical attendance for a whole community by the employment of a Medical Officer who is much underpaid. It is unnecessary to point out that this form of exploitation of the medical profession will be detrimental to the public interests, since capable doctors are unlikely to allow themselves to be used for such a purpose.

The Council of the Queensland Branch of the British Medical Association have addressed the following letter to the Home Secretary:—

The Under-Secretary, Home Secretary's Office, Brisbane.

Sir,—Referring to your letter of the 10th April, 1913, with reference to endowment upon contributions to hospitals, the Council of the Queensland Branch of the British Medical Association, have instructed me to ask whether the consideration of the question of endowing employees' contributions (which the last paragraph of your letter stated was shortly to be done) has resulted in any decision which you can place before my Council.

I am instructed to say that the matter of the position of Medical Officer to many Public Hospitals—notably Mareeba, Friezland, Chillagoe, Stannary Hills, Mungana, Wolfram Camp, Mount Molloy, Mount Morgan, and others—has become increasingly unsatisfactory and anomalous. We are informed, for example, that at Mareeba, for a subscription of 6d for single and 9d per week for married men of whatever position financially, the Medical Officer to the Hospital, for a salary of £450 per annum, is expected to attend the persons and their families at their homes, however distant, without further pay, and the subscribers are also entitled to their attendance in hospital whenever necessary.

On this payment of 6d or 9d per week the Government endows at the rate of £2 for £1. The question of whether or not the Government should pay endowments on moneys so contributed is, the Council recognises, not within their province to interfere, though in common with many others they hold very definite opinions.

The question of the remuneration of the medical men, however, in view of the very large sums of money obtained by some of the hospitals, and the fact that such an arrangement practically precludes in some instances, any private practice (though it is always stated in the advertisements for the appointment that the appointment is "with private practice") has made it necessary for the Council of this Branch seriously to undertake the consideration of the whole question. It may be necessary in some instances to take steps which might prevent members of the Association from holding appointments in hospitals whose treatment of the medical officers has been proved to be unfair and unjust, as in some instances has undoubtedly occurred.

The Association is unwilling to do anything which would make it difficult for country hospitals to obtain the most efficient services possible, but the Council is absolutely obliged to take steps to prevent improper exploitation and unfair treatment of members of the Association or of the medical profession in general.

I am writing at this length to put the position of the Council before you and to ask if you could give them any information or assistance which may enable them to have such definite knowledge of the wishes and intentions of the Government as might assist them in safeguarding the interests, as far as it is their province to do so, of both the hospital and its patients, and of the medical man in charge thereof.

I have the honour to be, Sir,

Your Obedient Servant,

A. GRAHAM BUTLER,
Hon. Sec.

University Intelligence.

UNIVERSITY OF SYDNEY.

According to the Manual of the Sydney University just published the number of students is now 1631. About one-fifth of the students are women. There are 479 male and 24 female medical students. The Medical School, which owes its existence and extraordinary expansion to a large extent to Professor Sir Thomas Anderson Stuart, holds by far the largest number of students of the faculties. The faculty of science is a comparatively small one, having less than 100 students. This is the more striking when it is remembered that agriculture and veterinary science is included. It is interesting to note that in spite of the fact that the science faculty has less than one-fifth of the number of students of the medical faculty, there are 22 women science students as compared with 24 women medical students.

ADELAIDE UNIVERSITY.

As a result of the establishment of the University in Western Australia, the examinations held in that State under the auspices of the Adelaide University will be discontinued. These examinations have been conducted by a committee representing the Adelaide University in Perth, during the last 18 years. The University Council has addressed a letter of thanks to the committee for its long and capable services. It has been decided that £50 out of a cash surplus of £70 belonging to the committee shall be devoted to the University of Western Australia. A medal will be awarded to the best work on English literature.

Council Election.

In November, 1913, the women members of the Senate of the Adelaide University nominated one of their number as candidate for election. Her candidature, however, was unsuccessful. We learn that Dr. Helen Mayo has again allowed herself to be nominated a candidate for the Council elections this year.

Hospitals.

ADELAIDE HOSPITAL.

The report for the year 1913 of the Adelaide Hospital has just been issued. During the year 4428 patients were admitted, being 404 in excess of the previous year. The number of out-patient attendances was 20,615, which represents 1272 more than the previous year. The total annual expenditure was £318 less than in 1912, and amounted to £30,514. One hundred and five cases of enteric fever were treated, with a mortality of 8 per cent.; 289 patients were sent to the Convalescent Hospital at Semaphore.

During the year the Pathological block was completed, and equipped with all modern appliances. The South Australian Government Laboratory of Bacteriology and Pathology was also completed at the beginning of the year. Ample use has been made of it, not only by the members of the staff but also by medical practitioners for their private practices, by Board of Health and other public bodies. The Board has recommended the expenditure of £500 for the purchase of radium for hospital use. An appendix is attached to the report enumerating the various illnesses dealt with during the year, and the various operations performed.

PERTH HOSPITAL.

At a recent meeting of the Perth Hospital Board, a report, drawn up by the Local Health Inspector of Subiaco, on the spread of diphtheria, was considered. The Health Inspector suggested that many cases were concealed because the parents of the children could not afford to pay the sum of 6s a day for treatment in the hospital. He advised that treatment of notifiable infectious diseases isolated in hospital on the order of the doctor should be free. The Board denied that an attempt is made to demand this payment in cases where the wages of the parent do not warrant the expenditure, and passed the following resolution:—

"That the following circular be printed and given to every in-patient: The charge for patients in this hospital is 6s a day. To those whose financial position makes it altogether impossible for them to pay this amount, earnest appeal is made that they pay to the very best of their ability, and so assist in providing for their fellow sick that accommodation, comfort, and attention they themselves have just enjoyed. It is almost needless to say that if this is not done admission will unfortunately have to be declined to many deservnig cases."

CHILDREN'S HOSPITAL IN PERTH.

Strenuous efforts are being made to place the Children's Hospital, Perth, on a satisfactory financial footing. In addition to other means, an Olde Englysche Fayre will be held next summer.

The revenue for the month of May from all sources was £1,209 5s 10d, while the expenditure was £912 7s 11d, and the bank balance on May 30 was £326 19s. The fact must not be lost sight of, however, that it was necessary to spend nearly £2,000 of the money raised to reduce the building debt to liquidate the maintenance expenses. This sum, it is hoped, will be paid back should the balance of the Government subsidy for the period ended June 30 be forthcoming. The building account is still in debt to the extent of £8,500, and on which interest is being paid. There are other very urgently-needed improvements, but the Board does not think it expedient to press for their accomplishment, in the face of the present debt.

BROKEN HILL AND DISTRICT HOSPITAL.

At the last meeting of the Board of Management of the Broken Hill and District Hospital, it was decided to call for applications for an additional Resident Medical Officer to the Institution. For the past twelve months all the operations of the Institution have been done by the resident staff. The number of operations is now rapidly increasing. During the last week eleven operations have been performed in the theatre, besides minor operations in the casualty department. The daily average number of occupied beds has exceeded 100 for the last three months. The resident staff now consists of the Surgeon Superintendent, Dr. M. Birks, F.R.C.S., Eng., and the Resident Physician, Dr. L. L. Seabrook, M.B.

The need for a junior resident surgeon is being very much felt, on account of the large number of accidents, and the fact that the hospital does a very large proportion of the surgical work of a town with a population of over 36,000 people. The position offers experience for a young surgeon.

Correspondence.

THE MEDICAL CONGRESS AND THE B.M.A.

Sir,—In reference to the letters from Drs. Turner and Hornabrook, published in "The Australian Medical Gazette," I should wish to point out that there can scarcely be 1 per cent. of reputable practitioners outside the British Medical Association. I take it your correspondents would not desire ostracized members of the profession to attend the Congress. Would they, or any other prominent members of the British Medical Association sit alongside and join in discussions with gentlemen of this class, I hope not. A man who is eligible and stays outside the British Medical Association is not worth considering for a moment. If he does not offend against the accepted ethical rules of the Association, it is probably only because it suits him better to behave well. As for the real offender, we of the rank and file, who have been loyal all through, look

to our leaders to have no dealings with men of this calibre, either socially, professionally, or even on the plea of humanity. He must be avoided under all conditions.

I am, etc.,

COUNTRY MEMBER, B.M.A.

THE ABDOMINAL INCISION IN REMOVAL OF OVARIAN TUMORS.

Sir,—At a recent meeting of the South Australian Branch, I read a paper on the above subject. Professor Watson, amongst others, discussed the paper. Unfortunately he spoke from the back of the room, some distance from me, and I missed the gist of his comments. However, his contribution to the discussion appeared in the last issue of the "Australian Medical Gazette," and I should like to take this opportunity of replying. I am one of the Professor's many friends, who have the greatest admiration for his profound and unique knowledge of anatomy and surgical anatomy, but all his best friends recognise that he is apt to be somewhat scathing and reckless in his remarks when he criticises an operation ,unless ti is done exactly according to his idea. I fail to see his point regarding the gall bladder; almost every incision for treatment of a pelvic growth would require a separate incision for removal of gall stones. My long experience in removing ovarian cysts, after reduction, through a small intra-umbilical incision, has taught me that it is not a safe procedure on account of the by no means infrequent danger of infection and malignant implantation. Professor Watson says the other ovary in my case was the size of a big Langshan egg. As a matter of fact, it was about the size of a Leghorn pullet's egg. Langshans lay a large egg, while Leghorns' are smaller. This patient was 27 years of age, and unmarried, so it was much better surgery to do some conservative operation on this ovary than to remove both. A young woman is much better off with one ovary, even although slightly enlarged and polycystic, than without any. I have little fear of Professor Watson's prophecy coming true, still I may be forced to remove this ovary in the near future. At any rate, in this patient I feel certain I did the right thing in giving her the chance. It is a little difficult to follow his argument, when he says the fluid from a small cystic ovary is even a greater potentiality for evil than the contents of an immense multilocular cystoma, with its many cyst cavities, which no one can definitely say what their contents are until the tissue is opened. Many cases are on record where cystoma, with perfectly innocent naked eye appearance, have cyst cavities containing malignant or infectial material, and my argument is that even the most experienced operator can never tell, and the only safe method is to remove all ovarian cysts intact. I make a point in all abdominal operations to examine and remove the appendix if it is not apparently a normal one, but in this case I examined and felt the appendix, and although it was a little longer than usual, showed no evidence of past or present inflammation, only containing faecal matter. I feel sure Professor Watson will agree with me when I say it is not a safe procedure to allow any of the contents of an ovarian tumor to escape into the peritoneal cavity. We only differ in our methods. I make a long incision and remove the growth intact; he advises stabbing the lower pole after dividing the pedicles, and emptying the cyst in that way. My method is practicable, while his method would be impracticable in the majority of cases. It would no doubt be an easy matter to empty a simply unilocular cyst with its thin fluid contents in this way, but these are not the dangerous forms of tumor I refer to. It is the true proliferating glandular cyst, with its many cyst cavities, which may or may not contain malignant or infective material, which are the dangerous ones, and it would not be possible to empty these and deliver them through a small incision in the manner he describes, at any rate without soiling the peritoneum. After all, the length of the incision is a small matter, if the operation is an aseptic one, and the abdominal parietes are brought together in a proper manner; small, at any rate, as compared to the danger of secondary implantation, if the tumour is not removed intact.

Yours, etc.,

Adelaide, July 16, 1914. J. S. HAMILTON.

Public Health.

HEALTH OF VICTORIA.

The following cases of infective diseases have been notified to the Public Health Department of Victoria during the quarter ended 30th June, 1914:—

District.	Typhoid Fever.	Diphtheria.	Scarlet Fever.	Pulmonary Tuberculosis.
Metropolitan ...	54	683	65	183
Ballarat	12	50	3	18
Bendigo	24	126	3	11
Geelong	15	39	1	3
Rural	192	624	12	75
Whole State ..	297	1522	84	290

The fortnightly report of the Medical Inspector is as follows:—

Notifiable Diseases.

Numbers of cases of and deaths from notifiable diseases reported to the Board for the fortnight ended 7th day of July, 1914, and for previous fortnight, and average for corresponding firstnamed periods for the previous four years:—

Cases and Deaths.	Disease.	Typhoid Fever.		Diphtheria.		Scarlet Fever.		Pulmonary Tuberculosis	
	Area ..	Whole State.	Metrop'n.	Whole State.	Metrop'n.	Whole State.	Metrop'n	Whole State.	Metrop'n.
For fortnight ended 7th July, 1914:—									
Cases		8	2	303	148	22	17	43	28
Deaths		2	0	12	8	0	0	18	15
For previous fortnight:									
Cases		26	8	270	142	13	11	38	29
Deaths		2	0	8	5	0	0	22	19
Average for corresponding firstnamed periods for previous four years:—									
Cases		13	3	247	126	22	12	..	..
Deaths		1	0	8	4	0	0	..	..

Municipalities in which notifiable diseases have been most prevalent during past fortnight:—

Municipality.	Diphtheria.
Mildura	33
Bendigo	27
Fitzroy	19
Northcote	13

Comments.—As the Institutions for the reception and treatment of advanced phthisis are situated in Metropolitan area a larger percentage of deaths from this disease takes place in that area as opposed to the whole State. Diphtheria is prevalent, as it usually is at this time of year in Victoria. The outbreak at Mildura is of a very mild type.

J. W. JONES,
Medical Officer.

At a meeting of the Victorian Board of Health, held on 24th June, 1914, the following resolutions, inter alia, were passed.

Diphtheria.—Shire of Epping: Resolved that Diphtheria be proclaimed a notifiable disease throughout the Shire of Epping.

Pure Milk Supply.—Notice of Motion by Mr. Wood: Resolved that the Board considers that it is advisable that all milk supplied for human consumption should be so treated as to destroy any germs of disease that it may contain before delivery to customers.

Proceedings of Australasian Medical Board.

QUEENSLAND.

The following persons have been registered under the provisions of the "Medical Act of 1867," as duly qualified Medical Practitioners:

Clowes, Ainslie Stalham (Brisbane), M.B., Ch.M. Univ. Syd., 1914

Grey, Robert (South Brisbane), M.B., Ch.B. Univ. Aberd., 1914

Smith-Guthridge, John (Mount Perry), L.R.C.S. and L.R.C.P. Edin., L.F.P.S Glas., 1899

Plant, Harold E. H. (Brisbane) has registered the additional qualification of Ch.M. Univ., Syd. 1913.

Medical Appointments.

The following appointments have been made at the Sydney Hospital:—

Dr. E. J. Jenkins, hon. Consulting Physician.

Dr. Fred. W. Hall, hon. Physician.

Dr. Lane Mullins, hon. Director of the Department of Special Therapeutics.

Dr. Charles Ayres, hon. Skigrapher.

Dr. C. F. Warren, hon. Assistant Aural Surgeon.

Dr. R. C. Irvine, M.B., Ch.B., has been appointed Temporary Examiner in Hobart under the Opticians Act, 1913, during the absence of Dr. Hugh Armstrong.

Dr. J. J. Prendergast has been appointed Medical Officer of Health at Perth, Western Australia, Dr. Paget Thurstan having resigned.

Dr. Charles Gabouriel Thorp has been appointed Acting Pearling Inspector for the Port of Onslow, Western Australia, under section 9 of the Pearling Act, 1912, during the absence of Dr. Adams.

Dr. W. N. Robertson has been appointed hon. Medical Officer in charge of the Ear, Nose, and Throat Department recently established in connection with the Mater Misericordiæ Public Hospital, South Brisbane, Queensland.

Medical Appointments Vacant

QUEEN VICTORIA SANATORIUM, WENTWORTH FALLS.

RESIDENT MEDICAL OFFICER required for above Institution. Salary £300 per annum for first year and £350 per annum for second year, and thereafter, with board and residence.

Applications, with testimonials, to be sent to
H. A. JAMES, Hon. Secretary,
Queen Victoria Homes Office,
7 Bligh Street, Sydney.

BROKEN HILL AND DISTRICT HOSPITAL.

Wanted, Resident Surgeon, salary £100 p.a., or if applicant has already served as resident to a large hospital for a period of at least six months, £150, with board and lodging in the Institution. Travelling expenses one way after six months' service. Applications to be in by August 5th, with copies of credentials, addressed to the Secretary.

WANTED, QUALIFIED MEDICAL ASSISTANT for Lodge Practice, £250 a year and all found.

RESIDENT MEDICAL OFFICERfor country Institution. £350 a year, with residence (to himself) and board. Apply to Messrs. Backhouse and Goyder, 14 Martin Place, Sydney.

COUNTRY PRACTICE for disposal, in agricultural district Cash taken £890; hospital in town; price £300. Apply Messrs. Backhouse and Goyder, 14 Martin Place, Sydney

FOR TRANSFER, SUBURBAN PRACTICE, returning £450, including 80 Lodge patients (B.M.A. Members) good house, capable of increase. Apply Messrs. Backhouse and Goyder, 14 Martin Place, Sydney.

Diary for the Month.

July 1.—Victorian Branch, B.M.A.: Ordinary Meeting.
July 7.—New South Wales Branch, B.M.A.: Council Meeting.
July 8.—Pediatric Society (Melbourne.)
July 10.—New South Wales Branch, B.M.A.: Clinical Evening.
July 15.—Melbourne Hospital Clinical Society.
July 21.—New South Wales Branch, B.M.A.: Council Meeting.
July 28.—New South Wales Branch, B.M.A.: Committee Meetings.
July 28.—Eye and Ear Society (Melbourne.)
July 31.—New South Wales Branch, B.M.A.
July 31.—Melbourne Hospital Clinical Society.

Books Received.

EXTRACTION OF TEETH, by F. Coleman, L.R.C.P., M.R.C.S., L.D.S 2nd edition, with 57 illustrations. No. of pages, XI. and 174. Crown 8vo. Price, 3/6 net. London: H. K. Lewis.

PULMONARY TUBERCULOSIS, PRELIMINARY REPORT ON THE TREATMENT OF, WITH TUBERCULIN, by N. D. Bardswell, M.D., Medical Superintendent King Edward VII. Sanatorium, Midhurst, with a prefatory note by Prof. Karl Pearson, F.R.S. No of pages, XVIII. and 142. Size, demy 8vo. Price, 6/- net. London: H. K. Lewis

The following three books have been received from the Scientific Press, Limited, 28 Southampton-street, Strand, London, W.C.:—

1. A COMPLETE HANDBOOK OF MIDWIFERY, FOR MIDWIVES AND NURSES, by J. K. Watson, M.D., Edin., with 150 illustrations. Third edition. Price, 6/-.
2. MIDWIVES' POCKETBOOK, by Honnor Morten.
3. THE THEORY AND PRACTICE OF IONIC MEDICATION, by L. Maitland, M.D. (Lond.). Price, 1/- net.

Warning Notices.

Medical Practitioners are requested not to apply for any appointment referred to below without having first communicated with the Honorary Secretary for the Branch of this Association:—

Appointment.	Hon. Secty. of Branch.
Brisbane United Friendly Societies' Institute, Lodges, etc., of the Longreach, Central Queensland, and Warwick Friendly Societies, Darling Downs, Queensland.	Queensland Branch, B.M.A. Building, Adelaide Street, Brisbane.
Goulburn Friendly Societies' Association, at Goulburn, N.S.W.	N. S. Wales Branch B.M.A., 30-34 Elizabeth Street, Sydney.
Swan District Medical Officer.	Western Australian Branch B.M.A., 230 St. George's Terrace, Perth.
Contract Practice in Western Australia.	Western Australian Branch B.M.A., 230 St. George's Terrace, Perth.
Lodges at Casino, N. S. Wales. The United Friendly Soceities' Association of Orange, N.S.W.	N. S. Wales Branch, B.M.A., 30-34 Elizabeth Street, Sydney.

ERRATA.

(1) In Dr. S. Harry Harris's paper ("Medical Journal of Australia," July 11, 1914), the pyelograms reproduced as Fig. 2 and Fig. 6 should have been reversed.

(2) On p. 35, the paragraphs at the foot of the first column and that at the head of the second column, beginning "There was no evidence . . . " to . . . "examination a negative," should be placed at the end of Case 5 (p. 36).

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this Journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to the "Medical Journal of Australia" alone, unless the contrary be stated.

All communications should be addressed to "The Editor," "Medical Journal of Australia," B.M.A. Building, 30-34 Elizabeth Street, Sydney, New South Wales.